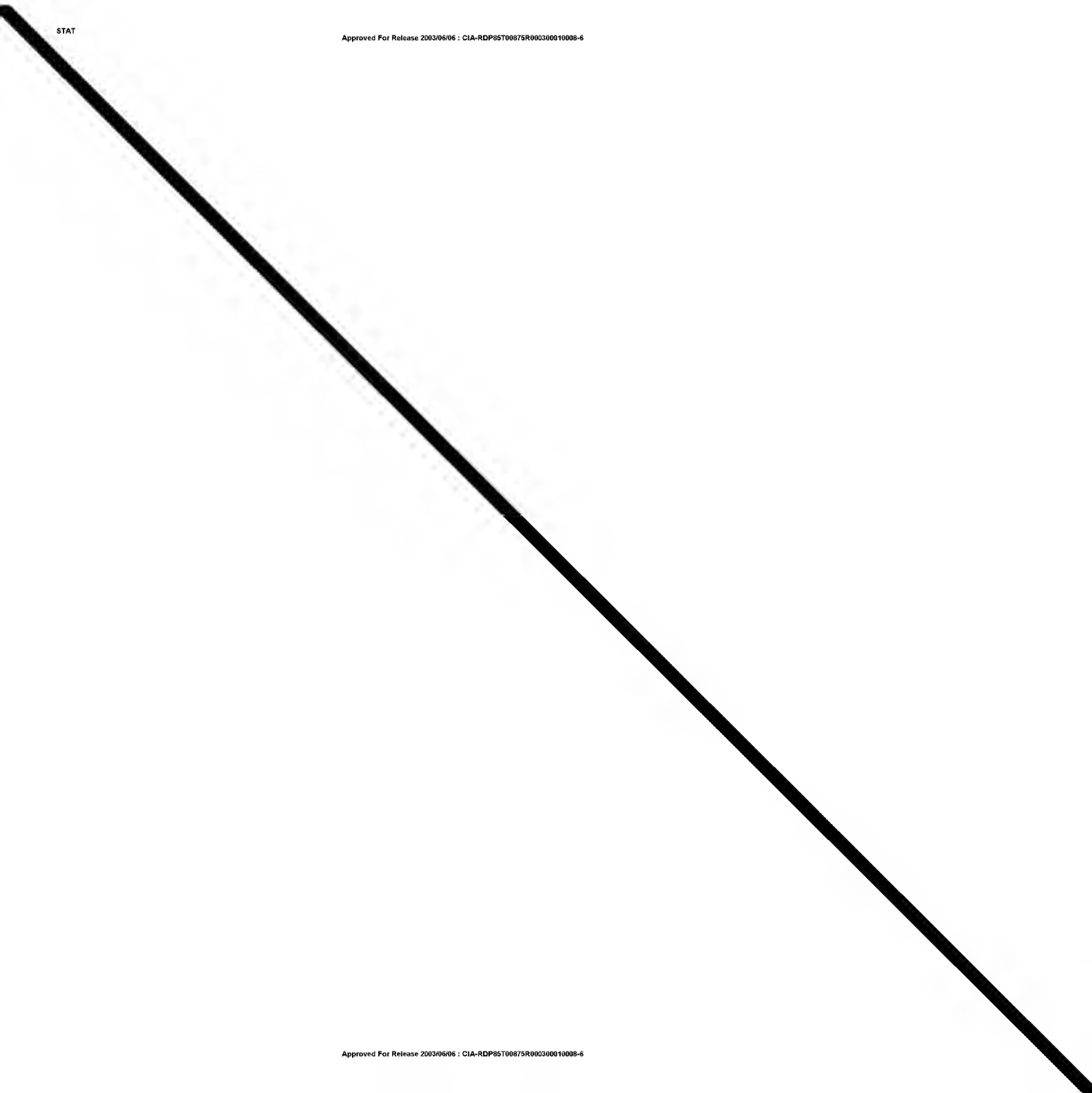

FOREIGN BROADCAST INFORMATION SERVICE

# FOREIGN PRESS DIGEST

## *Soviet Scientists and Scientific Organizations* (132)

31 January 1974
FPD 0010/74

NOTE

This monthly publication contains information on the structure, activities, and personnel of Soviet scientific organizations, as reported from periodicals, books, and newspapers of the USSR. Reporting of events which have been covered adequately in official or public sources is not repeated in this publication.

Items contained in this report are full translation, excerpts, or abstracts as indicated at the beginning of each item.

Also included in the overall FBIS reporting program on Soviet science and technology is the monthly publication *Foreign Press Digest: Cybernetics in the USSR*.

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SOVIET SCIENTISTS AND SCIENTIFIC ORGANIZATIONS (132)

CONTENTS

## I. ACADEMIES OF SCIENCES

### USSR

USSR

"The 250th Anniversary of the Academy of Sciences USSR"

Kiev, Pravda Ukrainy, 17 Oct 73, p 1

Excerpts: The Central Committee of the Communist Party of the Soviet Union has issued a decree on "The 250th Anniversary of the Academy of Sciences USSR...."

The Central Committee CPSU has decided to celebrate the 250th anniversary of the Academy of Sciences USSR by a review of achievements of Soviet science which made great contributions to the building of socialism in the USSR, to the creation of highly developed socialist economics and defensive power of the country, to the development of education and culture, and to the consolidation of peace and the strengthening of friendship between nations.

The Central Committee CPSU has approved the proposal of the Jubilee Committee of the Academy of Sciences USSR on the 1974 holding in Moscow and Leningrad of ceremonial

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USSR

Pravda Ukrainy, 17 Oct 73, p 1

sessions of the Academy of Sciences USSR with participation of the Party, Soviet, and social organizations as well as of the sessions of the Union Republics Academies of Sciences, Academy of Medical Sciences USSR, All-Union Academy of Agricultural Sciences imeni V.I. Lenin, and Academy of Pedagogical Sciences USSR on the 250th anniversary of the Academy of Sciences USSR.

The Central Committee CPSU expresses its confidence that, while celebrating the anniversary of the Academy of Sciences USSR, the scientists and collectives of scientific research institutions of the country will exert every effort to fulfill tasks set by the 24th Congress CPSU, and will achieve new successes in further developing leading scientific directions and introducing the achievements of science into the sphere of material production, and thus will make befitting contributions to the common struggle for communism.

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Republics

USSR/BSSR

SAKEVICH, I. U.

"Annual General Meeting of the Belorussian Academy of Sciences"

Minsk, Izvestiya Akademii Nauk BSSR, Seriys Biologicheskikh Nauk, No 4, 1973, pp 124-128

Excerpts: On 22 September 1973 a session of the General Meeting of the Academy of Sciences BSSR was held on the results of the activity of the Academy for 1972.

The Annual Meeting of the Belorussian Academy of Sciences was opened by President of the Belorussian Academy of Sciences, Corresponding Member of the Academy of Sciences USSR Academician of the Belorussian Academy of Sciences M. A. Barysevich. In his opening address, the President stated that the Academy's scientific institutions, in the jubilee year 1972, scored new successes, and that many scientists and collectives of workers were awarded State Prizes USSR and Belorussian SSR. In particular, Academician of the Belorussian Academy of Sciences B. I. Stsyapanau and his disciples V. A. Mastounikau and A. M. Rubinau, for a series of research works relative to the phenomena of optical generation in solutions of complex organic compounds and creation



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SAKEVICH, I. U., Izvestiya Akademii Nauk BSSR, Seriys Biologicheskikh Nauk, No 4, 1973, pp 124-128

of a new type of lasers with a smooth readjustment of radiation frequency in the infrared region of the spectrum; and Academician of the Belorussian Academy of Sciences Ya. A. Barbashyn (deceased), for a series of works relative to the theory of stability of automated control systems, were awarded State Prizes USSR. In 1972, State Prizes Belorussian SSR in science and technology were awarded for the first time in Belorussia. For works representing valuable contributions to science and practice, State Prizes Belorussian SSR were awarded to Academicians of the Belorussian Academy of Sciences U. A. Bely, G. V. Bagamolau, I. A. Bulygin, K. I. Lukashou, A.S. Makhnach, F. I. Fedarau, and I. D. Yurkevich, and to a number of workers of Academy institutes. Of nine works awarded State Prizes Belorussian SSR for 1972, five went to scientists of the Belorussian Academy of Sciences.

For great services in the development of Belorussian literature, Academician of the Belorussian Academy of Sciences P. Brouk was awarded the title Hero of Socialist Labor. In 1972 a group of scientists of the Academy of Sciences was conferred honorary titles of the Belorussian SSR for work on organizing and developing science and the training of scientific cadres. Academicians of the Belorussian Academy of Sciences



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SAKEVICH, I. U., Izvestiya Akademii Nauk BSSR, Seriys Biologicheskikh Nauk, No 4, 1973, pp 124-128

G. I. Garetskiy, M. M. Paulyuchenko, M. U. Smol'skiy, and N. V. Turbin, and Corresponding Member of the Belorussian Academy of Sciences, M. M. Gancharyk were awarded the title Honored Scientists Belorussian SSR, and Academician of the Belorussian Academy of Scienoes, Ya. R. Kanavalau, and Corresponding Member of the Belorussian Academy of Sciences P. A. Yashcharytsyn received the title Honored Scientist and Technologist Belorussian SSR.

After this the President touched upon the most important works carried out by scientific institutions of the Academy in 1972....

In conclusion M. A. Barysevich noted that since many Academy institutes had become great scientific centers and had obtained the necessary experimental and production base, the effectiveness of their activity in the realization of fundamental research is still low. The number of proposals for introducing results of their research is small, and often these proposals are minor with little effect on production processes. The immediate task of institutes is to work so that no practically important oompleted research work would not be implemented.

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USSR/BSSR

SAKEVICH, I. U., Izvestiya Akademii Nauk BSSR, Seriys Biologicheskikh Nauk, No 4, 1973, pp 124-128

M. A. Barysevich gave the floor to Chief Scientific Secretary of the Presidium of Belorussian Academy of Sciences Corresponding Member of the Belorussian Aoademy of Sciences A. S. Dzmitryyeu report on scientific and scientific-organizational activity of the Belorussian Academy of Sciences in 1972.

In his report A. S. Dzmitryyeu analyzed activities of divisions and scientific institutions with regard to practical utilization of results of scientific research and scientific-organizational work of the Academy, paying particular attention to the Academy's work on organizing and coordinating scientific research in the Republic, and to funding (financing, capital construction, material-technical maintenance, strengthening research and design base, etc.). He dwelt on shortcomings which impede the fulfillment of executive organ decisions regarding acceleration of scientific-technical progress.

In 1972 scientific institutions of the Belorussian Aoademy of Sciences elaborated 336 themes in 102 problems of natural history and social sciences. The work relating

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USSR/BSSR

SAKEVICH, I. U., Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 4, 1973, pp 124-128

to 57 themes has been completed. Also the Belorussian Academy of Sciences participated in the elaboration of 42 scientific-technical problems. Within the framework of these problems the elaboration of 14 themes was completed....

However, the economic effect that benefited the national economy of the country from the introduction of scientific research results of institutions of the Belorussian Academy of Sciences amounted to only 6,300,000 rubles. The speaker analyzed the causes of this low effect.

The effective form of the relationship between scientific institutions and enterprises is the execution of works based on economic agreements. In 1972 their volume amounted to 12.4 million rubles, 1.8 million rubles more than in 1971. On the basis of economic agreements 298 themes were researched and the results were turned over to customers.

In the reported year scientific institutions of the Belorussian Academy of Sciences submitted to the Committee for Inventions and Discoveries of the Council of Ministers

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SAKEVICH, I. U., Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 4, 1973, pp 124-128

USSR 697 applications for inventions, and 276 patents or positive decisions were obtained, 72 patents more than in 1971....

In 1972 associates of the Academy worked out and published a number of important monographs, thematic collections, and scientific papers. The publishing house "Nauka i Tekhnika" [Science and Technology] was mainly responsible for the printed production. It published 236 items (152 books and booklets, and 84 periodical publications), amounting to 3080.2 printed sheets of 507,300 copies. In scientific periodicals and collections scientists of the Academy published about 3,000 scientific articles relative to various directions of modern science.

In the period under review scientific institutions of the Belorussian Academy of Sciences planned and conducted 8 all-union and 5 republic conferences and meetings and 2 all-union schools. They included the 6th All-Union Conference on Nonlinear Optics, the 6th All-Union Meeting on Heat and Mass Exchange, the 3rd All-Union Conference on "Dissociation Gases as Heat Carriers and Working Substances of Nuclear Power Plants,"

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SAKEVICH, I. U., Izvestiya Akademii Nauk BSSR, Seriys Biologicheskikh Nauk, No 4, 1973, pp 124-128

the 14th Symposium on Agrarian History of Eastern Europe held in Grodno, the International School-Seminar on "Methods of Synthesis and Research of Heat-Resistant Polymers" in Gomel', and others.

Great work was performed by the institutions of the Belorussian Academy of Sciences to propagandize the achievements of science and technology. In the jubilee year scientists of the Academy delivered 6,410 lectures and reports. A number of scientific institutions of the Academy took an active part in the organization of the exposition at the Exhibition of Achievements of the National Economy USSR and the Exhibition of Achievements of the National Economy Belorussian SSR, as well as in thematic shows devoted to the 50th anniversary of the founding of the USSR. The directorate of the Exhibition of Achievements of the National Economy USSR awarded the Institute of Genetics and Cytology of the Belorussian Academy of Sciences the Honorary Diploma of the Exhibition of Achievements of the National Economy USSR, the Institutes of Heat and Mass Transfer and Nuclear Engineering -- diplomas of the 1st degree, and the Institute for Problems of Reliability and Longevity of Machines -- diploma of the 2nd degree. Twenty-eight associates of the Academy were awarded medals of the Exhibition of Achievements of the National Economy USSR. In all, 1 gold, 7 silver, and 20 bronze medals were received

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SAKEVICH, I. U., Izvestiya Akademii Nauk BSSR, Seriys Biologicheskikh Nauk, No 4, 1973, pp 124-128

A. S. Dzmitryyeu characterized questions of the coordination of scientific research in the domain of natural science and social sciences, international scientific relations of the Belorussian Academy of Sciences and the training of scientific cadres.

On 1 January 1973 the Belorussian Academy of Sciences was composed of 60 academicians and 70 corresponding members. Institutions of the Academy of Sciences number over 4,000 scientific associates including 146 doctors and 1,095 candidates of sciences. In 1972 340 young specialists with higher and 13 with secondary special education were taken on by the Academy. Graduate studies were completed by 220 graduate students, and about 40% of them presented and defended candidate's dissertations. A total of 21 doctor's and 165 candidate's dissertations were defended in 1972.

The Academy of Sciences has 31 scientific institutions, including 25 institutes. As of 1 January 1973 the Laboratory of Electronics has become the Institute of Electronics of the Belorussian Academy of Sciences, and the Laboratory of Biophysics and Isotopes has become the Institute of Photobiology of the Belorussian Academy of Sciences.

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SAKEVICH, I. U., Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 4, 1973, pp 124-128

The plan for funding scientific research work in 1972 was fulfilled by 114.3%. The excess expenditure was compensated by the above-plan production realized through economic agreements. Appropriations for capital investments amounted to 92%, including those for construction and assembly works amounting to 98%.

The growth of material resources in 1972 amounted to 4%. The amount of uninstalled equipment was considerably reduced.

The research and experimental enterprises of the Belorussian Academy of Sciences carried out 22.4% more work than in 1971, in which the share of the Central Design Bureau alone in research production was 59.7%.

In conclusion A. S. Dzmitryyeu characterized the scientific organizational work carried out by the Presidium and divisions of the Belorussian Academy of Sciences in practical management of the activity of the Academy and dwelled on its shortcomings and ways of their elimination.

In debate on the report of Corresponding Member of the Academy of Sciences A. S. Dzmitryyeu participated Academicians of the Belorussian Academy of Sciences F. S.

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SAKEVICH, I. U., Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 4, 1973, pp 124-128

Martsinkevich, V. A. Serbenta, M. M. Sirata, and B. I. Stsyapanau, Corresponding Members of the Academy M. I. Mitskevich, L. U. Khatyleva, and others.

The General Meeting of the Academy of Sciences of the BSSR approved the report on the 1972 activity of the Belorussian Academy of Sciences.

The very same meeting approved the elections of directors of institutes and heads of individual scientific institutions which took place at the meetings of the divisions. In particular, approved were as directors of the Institute of Physics -- Academician of the Belorussian Academy of Sciences B. I. Stsyapanau, the Institute of Mathematics -- Academician of the Belorussian Academy of Sciences M. P. Yarugin, the Institute of Electronics -- Doctor of Physicomathematical Scienoes U. A. Pilipovich, the Institute of Heat and Mass Transfer -- Academician of the Belorussian Academy of Sciences A. V. Lykau, the Institute of Nuclear Engineering -- Academician of the Belorussian Academy of Sciences A. K. Krasin, the Institute for Problems of Machine Reliability and Longevity -- Doctor of Technical Sciences I. S. Tsitovich, the Institute of Geochemistry and Geophysics -- Academician of the Belorussian Academy of Sciences K. I. Lukashou, the Institute of General and Inorganic Chemistry -- Corresponding Member of the

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Belorussian Academy of Sciences U. S. Kamarou, the Institute of Peat -- Doctor of Technical Sciences I. I. Lishtvan, the Institute of Photobiology -- Corresponding Member of the Academy of Sciences USSR A. A. Shlyk, the Institute of Experimental Botany -- Candidate of Biological Sciences V. I. Parfenau, the Institute of Economics -- Academician of the Belorussian Academy of Sciences F. S. Martsinkevich, the Institute of History -- Corresponding Member of the Belorussian Academy of Sciences I. M. Ignatsenka, the Institute of Linguistics -- Corresponding Member of the Belorussian Academy of Sciences M. R. Sudnik, the Institute of Art, Ethnography and Folklore -- Corresponding Member of the Belorussian Academy of Sciences V. K. Bandarchyk, the Institute of Literature -- Corresponding Member of the Belorussian Academy of Sciences BSSR I. Ya. Navumenka, the Institute of Philosophy and Law -- Doctor of Philosophical Sciences P. D. Puzikau, the Central Botanical Garden -- Academician of the Belorussian Academy of Sciences M. U. Smol'ski, and Director of the Division of Microbiology -- Candidate of Biological Sciences A. G. Labanok.

A scientific report of Academician of the Belorussian Academy of Sciences A. S. Makhnaoh on the "Mineral Resources of Belorussia and Ways for Their Utilization" was delivered at the session of the General Assembly of the Belorussian Academy of Sciences.

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SAKEVICH, I. U., Izvestiya Akademii Nauk BSSR, Seriys Biologicheskikh Nauk, No 4, 1973, pp 124-128

Participants in the work of the Annual Assembly of the Belorussian Academy of Sciences included Secretary of the Central Committee of the Belorussian Communist Party A. Ts. Kuz'min, Deputy Chairman of the Council of Ministers Belorussian SSR and Chairman of the State Plan Belorussian SSR P. L. Kokhanau, Deputy Director of the Department of Science and Educational Institutions of the Central Committee of the Belorussian Communist Party, Ya. M. Babosau, Director of the Department of Science and Technology of the Council of Ministers Belorussian SSR G. M. Artsyusheuski, First Secretary of the May-Day Rayon Committee of the Minsk Communist Party, V. D. Bysenka, and others.

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## II. MEDICINE AND HEALTH

### USSR

USSR

"Decree of the Presidium of the Supreme Soviet USSR"

Moscow, Vedomosti Verkhovnogo Soveta SSSR, No 27, 4 Jul 73, pp 414-415

Translation: 349. On granting the Medical Services of the USSR Ministry of Defense, USSR Ministry of the Interior, and State Security Committee of the USSR Council of Ministers the Right to Levy Fines for Violation of Sanitary-Hygienic and Sanitary-Antiepidemic Regulations"

The Presidium of the Supreme Council of the USSR decrees that:

1. The medical services of the USSR Ministry of Defense, USSR Ministry of the Interior, and State Security Committee of the USSR Council of Ministers that are charged with health inspection be authorized to levy fines, without resorting to administrative commissions, for violations of sanitary-hygienic and sanitary-antiepidemic regulations in installations situated on the ground of military encampments and educational centers



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of the USSR Ministry of Defense and in installations under the jurisdiction of the USSR Ministry of the Interior and State Security Committee of the USSR Council of Ministers.

And that the fines are to be levied on guilty officials (except military personnel and rank-and-file staff members and directors of agencies of the USSR Ministry of the Interior) by the following officials responsible for health inspection:

Chief epidemiologist of the USSR Ministry of Defense and his deputy - up to 30 rubles; head of the Central Sanitary-Epidemiological Laboratory of the USSR Ministry of Defense and the chief epidemiologists of the USSR Armed Forces, military districts, air defense districts, troop groups, and fleets - up to 20 rubles;

Head of the Central Sanitary-Epidemiological Station of the USSR Ministry of the Interior and his deputy and the chief of the sanitary-epidemiological brigade of the internal troops of the USSR Ministry of the Interior - up to 30 rubles; the heads of sanitary-epidemiological stations of union and autonomous republic ministries of the interior and administrations of internal affairs of the executive committees of kray

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and oblast councils of workers' deputies and the heads of sanitary-epidemiological stations of corrective labor institutions - up to 20 rubles;

Head of the Sanitary-Epidemiological Station of the State Security Committee of the USSR Council of Ministers and his deputy and the chief epidemiologist of troops of the State Security Committee of the USSR Council of Ministers - up to 30 rubles; the directors of medical services of the state security committees of the union and autonomous republic councils of ministers, the directors of medical services of administrations of state security committees for krays and oblasts, and chiefs of sanitary-epidemiological brigades of troops of the State Security Committee of the USSR Council of Ministers - up to 20 rubles.

2. In connection with Article 1 of this Decree, in Article 13 of the Decree of the Presidium of the Supreme Soviet of the USSR dated 21 June 1961 "Further Restrictions on the Use of Fines Levied Administratively" (Vedomosti Verkhovnogo Soveta SSSR, 1961, No. 35, art. 368; 1962, No. 39, art. 402; 1966, No. 30, art. 593; 1967, No. 51, art. 655; 1968, No. 5, art. 29 and No. 7, art. 48; 1969, No. 39, art. 353 and No. 48, art. 431; 1972, No 31, art. 272 and No. 33, art. 297) the words "organs of the state

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health inspectorate - for violations of sanitary-hygienic and sanitary-antiepidemic regulations" should be replaced with the words "organs and institutions responsible for state health inspection and the medical services of the USSR Ministry of Defense, USSR Ministry of the Interior, and State Security Committee of the USSR Council of Ministers that are charged with health inspection - for violations of sanitary-hygienic and sanitary-antiepidemic regulations."

Signed by N. Podgornyy, chairman of the Presidium of the Supreme Soviet USSR, and M. Georgadze, secretary of the Presidium of the Supreme Soviet USSR. Moscow, the Kremlin, 29 June 1973. No. 4448 - VIII

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Republics

USSR UDC 61(476)"45-50"(47+57)

SAVCHENKO, M. Ye., Minister of Health Belorussian SSR

"Public Health in Belorussia"

Minsk, Zdravookhraneniye Belorussii, No 12, 1972, pp 3-7

Excerpts: The economic and social reforms which took place in Belorussia during the years of Soviet rule created favorable conditions for successful development of all sectors of the national economy, science, culture, and education and made it possible to solve the problem of protecting workers' health -- one of the most important social problems....

At present Belorussian public health is an inseparable part of the orderly public health system of the entire country. For example, hundreds of Belorussian physicians and secondary medical workers participated in the development of virgin and long-fallow land in Kazakhstan and other republics. Many Belorussian physicians worked selflessly to study foci of especially dangerous infections beyond the republic's borders and participated in aiding underdeveloped countries in many regions throughout the world, and continue to do so. Prof I. N. Usov's activity in children's clinics in India was highly evaluated. Prof P. I. Lobko, assistants L. Ye. Kotovich, F. P.

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SAVCHENKO, M. Ye., Zdravookhraneniye Belorussii, No 12, 1972, pp 3-7

Prigun, and A. F. Guzov, physicians L. P. Inin and A. A. Kudin, and others are remembered with gratitude in Mali, Cuba, and Algiers....

Especially great help was given to Belorussian public health in restoring public health institutions after the Great Patriotic War. The prewar public health network was restored as early as 1948, and outbreaks of typhus, dysentery, venereal diseases, and malaria were ended earlier. During the 25 postwar years 64 rayon hospitals or individual buildings for them and 47 polyclinics were built, and rayon hospitals were consolidated from 62 beds in 1950 to 165 beds in 1970. The following large oblast hospitals were built: the Grodnenskaya Oblast Hospital for 750 beds, the Mogilevskaya Oblast Hospital for 830 beds, and the first stage of the republic hospital for 400 beds. The capacity of the oblast hospitals increased from 341 to 573 beds. Oblast hospitals are being built for 600 beds in Brest and 940 beds in Gomel'. Other large institutions are also being built.

The consolidation of rayon, city, and oblast hospitals made it possible to solve the basic problems of organizing specialized help. For example, during 1950-1970 the number of neurological beds increased almost four times, eye disease beds three times,

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SAVCHENKO, N. Ye., Zdravookhraneniye Belorussii, No 12, 1972, pp 3-7

otorhinolaryngological beds four times, urological beds seven times, and orthopedic-traumatological beds 15 times. Departments for neurosurgery, urology, children's surgery, burns and reanimation, and pathology of the newborn were opened in all oblast hospitals. The therapeutic service underwent a considerable specialization.

The 5 July 1968 decree of the CPSU Central Committee and the Council of Ministers USSR determined the ways of further improving public health and medical science. It became the program of public health for the next 10-15 years. The decree formulated much higher requirements for developing specialized medical help and its maximum closeness to the public, raising the level and standard of medical services in all public health units, strengthening the sanitary well being, and raising the sanitary standard.

In light of the fulfillment of the tasks formulated in the decree significant work is being done in the republic. Three 500-bed hospitals for mental patients are being built. They are to be followed by the educational complex of the Minsk Medical Institute, the Minsk and Vitebsk 1,000-bed hospitals, and a 800-bed first aid hospital in Minsk. Two 420-bed hospitals for restorative therapy and a 400-bed oncological hospital are to be built in the future.

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SAVCHENKO, N. Ye., Zdravookhraneniye Belorussii, No 12, 1972, pp 3-7

In Minsk a modern center for children's surgery was established and vascular, proctological, hepatological, nephrological, gastroenterological, pulmonological, and other highly specialized departments were opened. More than 20 specialized departments, including cardiological, pulmonological, gastroenterological, nephrological, burn, and reanimation departments, were opened in the newly built Mogilevskaya Oblast Hospital. The same high level of specialization is also planned in the Brestskaya and Gomel'skaya oblast hospitals.

A wide program to develop specialized aid to mothers and children has been started. For example, 17 specialized departments and offices for treating children and 28 for treating women, including departments for the pathology of the newborn and for injured newborn babies in every oblast, are to be opened in 1971-1975.

Much attention is given to the development of outpatient polyclinic aid as the most popular and closest to the public. Instead of the small prerevolutionary and pre-war outpatient clinics where one or two physicians worked, large polyclinics with all the auxiliary services were established. A total of 65? rayon and city polyclinics and 797 rural outpatient clinics operated in Belorussia in 1971. Outpatient treatment in 10-11 specialties was organized in 58 rayon polyclinics of central rayon hospitals,

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SAVCHENKO, N. Ye., Zdravookhraneniye Belorussii, No 12, 1972, pp 3-7

12 specialties and more in 24 rayon polyclinics, and 8-9 specialties in 26 rayon polyclinics. Medical sections were further subdivided and now they service an average of 4,000 inhabitants in an urban area and 5,000 inhabitants in a rural area. The service radius in rural areas was lowered to 8 km.

The organization of a wide network of outpatient-polyclinic institutions contributed to the dissemination of the preventive principles of Soviet public health in Belorussia. In 1970 alone periodic preventive examinations covered 3.5 million inhabitants (38.5%), tuberculosis examinations 6.2 million inhabitants (68.6%), and examinations for malignant growths 4.4 million inhabitants (48.6%). The widely organized work on a sharp decline in the incidence of tuberculosis in a number of rayons confirmed the "controllability" of this infection. From 1960 through 1970 the general decline in the incidence of tuberculosis was 27.7% and in the deathrate 53.4% and the number of individuals actively detected during examinations increased from 30.1 to 51.3%. Similar work is being done on an early detection of malignant growths.

The structural integrity of cities and villages improves every year. In 1970 as compared with 1950 the number of cities with a well-planned water supply system



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SAVCHENKO, N. Ye., Zdravookhraneniye Belorussii, No 12, 1972, pp 3-7

increased 14.5 times, and sewage system 11 times. During the last 20 years the length of water supply networks increased six times and sewage networks seven times. More than 200,000 wells were built in rural areas and 3,316 public bath houses were built in 10 years. Experimental construction of housing with a full set of municipal conveniences has began in many of the republic's rural areas. The public takes an active part in the improvements made in rural areas. The Rogachev population movement for a structural integrity and sanitary standard of settlements, widely known before the Patriotic War, was revived. Many of the republic's regions have already followed the example of the residents of Rogachev.

Medical science plays an ever more perceptible part in solving the most important problems of public health. More than 1,500 scientific and pedagogical workers, including 93 doctors and 794 candidates, now work in the republic's scientific research and medical institutes. The republic consultation center which gives consultation aid to patients from all oblasts was established through the efforts of highly skilled scientists....

In the last few years dozens of doctors and hundreds of candidates of sciences have been trained, making it possible to staff the leading institutions with highly

USSR

SAVCHENKO, N. Ye., Zdravookhraneniye Belorussii, No 12, 1972, pp 3-7

skilled personnel. Scientists are successfully working out such complex problems as organ [illegible] tissue transplants cybernetics in medicine, prevention of cerebral ischemia, hyperthermia in cancer therapy, development of new nerve tracks in internal organs, blood conservation, etc.

The government and the Central Committee of the republic Communist Party highly evaluated the work of Belorussian physicians and scientists. For services in the development of public health and medical science four physicians received the title of Hero of Socialist Labor, 442 the title Honored Physician Belorussian SSR, and 30 the title of Honored Public Health Worker instituted by the Supreme Soviet Belorussian SSR in 1971. Thousands of physicians and medium-level medical workers were awarded orders and medals and 3,753 the badge of Excellent Public Health Worker. A total of 2,716 medical workers were elected deputies to councils of workers' deputies and three of them are deputies of the Supreme Soviet Belorussian SSR, and nine medical scientists were elected to the Academy of Medical Sciences USSR and the Academy of Sciences Belorussian SSR.

The further development of Belorussia's public health has a firm economic basis in the form of annually growing allocations. Whereas in 1940 there were [illegible] rubles per



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SAVCHENKO, N. Ye., Zdravookhraneniye Belorussii, No 12, 1972, pp 3-7

inhabitant and in 1960, 16 rubles 41 kopeoks, in 1971 there were 34 rubles 21 kopecks. The allocations for capital construction increased from 53.3 million rubles in 1965-1970 to 124 million rubles in 1971-1975. The 1971 public health budget was equal to 307.3 million rubles.

The firm economic basis of Belorussia's public health and the firm bonds of fraternal friendship among Belorussia's nations with our country's other nations are reliable guarantees for the further successful development of public health in our republic.

USSR

BELEN'KIY, B.

"Are Interns Necessary for a City?"

Kishinev, Sovetskaya Moldaviya, 12 Aug 73, p 4

Translation: The Kishinev Medical Institute was one of the first higher educational institutions of our country to which in accordance with a decision of the Central Committee CPSU and the Council of Ministers USSR on "Measures for Further Improvement of Public Health," the internship was introduced as a higher form of the specialization of medical cadres.

First I must speak of the essence of the problem itself. It concerns the level of the training of young physicians. On the face of it this is a local problem. Patients are not interested in the methods of training attending physicians. All they want is that physicians be really able to treat them. Nevertheless we ought to consider this particular problem on a broader scale, so to say from a utilitarian and purely practical standpoint...

...Each year the Medical Institute graduates four hundred to six hundred physicians. While receiving diplomas they do not, however, acquire rights to independent medical



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practice. Many years' experience convincingly shows that at least one year of purposeful specialization is needed for a young physician to acquire the necessary practice, consolidate theoretical knowledge, assimilate experience of senior colleagues, and to build on foundations laid by his academic training the first story of his practical skill. That is the whole point of the internship.

As has been said, 400 to 600 students graduate from a medical school. This means that the same number of young physicians must every year undergo specialization. Where? In the best therapeutic-prophylactic institutions of the Republic. But why? It is quite clear that internship requires a good material base and highly experienced specialists capable of properly guiding the youth. Surely such conditions are not found everywhere. That is why in selecting bases for specialization the Ministry of Health and the Medical Institute had to choose Kishinev, Bel'tsy, Tiraspol, Bendery, and a few more rayon centers. It was there that one had to organize specialization, that is to train new physicians not so much for oneself as for others.

Naturally we are absolutely opposed to a seniority method of approach. We are for the common cause. Nevertheless, when it had become clear that to go through the internship, a hospital as such, even the best organized, is not at all sufficient, that the

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intern is in need of a supervisor of the highest professional skill, such as chief physician or head of the department, who as is well known are already overwhelmed with work, and when it had also become clear that one must organize for the intern his elementary life, from nutrition to housing, then even the highest consciousness began to be invaded with doubts: is a city really in need of an intern who tomorrow will become someone else's physician?

Surely internship is a troublesome matter. And the Medical Institute experienced it in full measure....

It began with transitory period, one of search and elaboration of elementary organization. This was followed by a stage of consolidation. At present, according to the organizer of the internship, Docent Vasiliy Grigor'yevich Sokol, it is time to bring the matter of specialization of young physicians in close correspondence with certain standards.

"Are there such standards?"

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"Certainly, there are. For example, the experience of physicians of Bel'tsy. I would call it the Bel'tsy approach to this matter."

...From the viewpoint of a public health material base Bel'tsy has certainly many important advantages. There is a republic multiline hospital and several other specialized medical institutions. In Bel'tsy was formed a considerable number of highly qualified medical specialists, including quite a few candidates of medical sciences and physicians of higher and first class. But the Bel'tsy physicians have also their problems. The leading physicians, for example, perform functions of chief specialists for the northern region of the Republic. They conduct consultations in rayons, leave town for emergency operations, and actively help their rural colleagues. At the same time these leading specialists were supposed to assume all the burden of painstaking work with interns.

The Bel'tsy City Department of Public Health has shown both tactfulness, persistence, and thorough understanding of importance of the matter. The City Department of Public Health has become a real ally of the Medical Institute, having mobilized for the cause of internship its best therapeutic institutions and its best forces.

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The City Maternity Home is one of the basic institutions for internship, where young physicians specialize in obstetrics and gynecology. The problems of everyday life of interns and organization of their training have been solved here in the best interests of the young physicians. First the question of where the interns should live -- in city boarding houses or at the hospital?

"Only at the hospital," says convincingly Chief Physician Semen Vasil'yevich Guranda. "Pathology does not arise to order. And each rare case should become an instruction for the young physician..."

At the hospital pressure was applied to administrative services, and two rooms were secured and turned into a cozy and comfortable living place. In these rooms a special signalization system was installed. One signal announces the beginning of a complicated operation and thus summons interns to the operating room. The second signal announces a rare case in surgical practice and requires the presence of all interns at the operation.

Physician-interns are full and equal members of the collective. They operate, assist, study according to individual programs, and take part in the social routine.

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During all these years about forty young physicians have completed their specialization here. Many of them, while working in rural district hospitals, even now maintain contact with the Institute and with their instructors during internship. They call in person, speak over the telephone, seek advice, and share their thoughts.

The "Bel'tsy approach" is not only a very well-organized training of young physicians with use of city bases. It is also a close contact with the departments of the Medical Institute, it is a high responsibility for the fate of young physicians, and finally it is a real care for their welfare.

The City Department of Public Health alone could certainly not solve all these problems. The problem of accommodation of interns was taken care of by the City Executive Committee. Negotiations with managers of the Meat Kombinat, vocational-technical schools, and other organizations having at their disposal large boarding houses, followed the spirit of mutual understanding and brought about concrete results. Later a special decision was taken. From now on the problem of the accommodation of interns practically does not exist; the young physicians have been allotted permanent accommodations.

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However this solution is considered by the City Executive Committee as a temporary one. The construction of a new hospital block of buildings is being linked with the construction of a special living unit for interns and the creation of a City Scientific Medical Library.

"The internship," it is stated by the Executive Committee, "is a common concern, And all its problems should be solved conjointly."

I asked how many out of seventy physicians that specialize each year at the City hospitals remain at Bel'tsy. The answer was: "the number varies each year. Sometimes three or four, and sometimes, not a single one..."

So, does the city need interns?

The Bel'tsy administrators through all their actions are answering this question categorically and affirmatively.

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SERGEYEV, V. M., and DEMIDOV, N. A.; Main Administration of Scientific Research Institutes and Coordination of Scientific Research, Ministry of Health RSFSR

"Prospects of the Development of Rationalization, Invention, and Patent-License Work"

Moscow, Zdravookhraneniye Rossiyskoy Federatsii, No 4, 1973, pp 3-7

Abstract: Until 1970 no offices for rationalization and inventions existed within the framework of scientific research institutes of the RSFSR, and all patent and license work was carried out only episodically by workers of these institutions. The number of inventions in medical technology, development of new medicinal preparations, methods of diagnosis, treatment and prophylaxis of diseases averaged in the RSFSR less than 1 invention and 2.5 rationalization proposals per institute.

A new phase in this important direction began with the creation of the Main Administration of Scientific Research Institutes and Coordination of Scientific Research at the Ministry of Health RSFSR, with a special Department of Invention and Patent-License Work to provide guidance for Invention and Patent-License Services within scientific research institutes and medical higher educational institutions of the RSFSR. The Main Administration worked out a system of measures for eliminating shortcomings and

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SERGEYEV, V. M., et al., Zdravookhraneniye Rossiyskoy Federatsii, No 4, 1973, pp 3-7

improving the effectiveness of scientific work based on the following principles: obligatory patent-oriented study of all patent-susceptible subjects; timely elicitation of works performed at the level of invention, and expert official substantiation of applications to the Committee for Inventions and Discoveries; inadmissiblity of leaking information about supposed inventions or discoveries; evaluation of results of scientific activity of executors of projects according to the number of inventions put into operation; obligatory payment of author's rewards for inventions and prizes for cooperation in their putting into use. As a consequence of measures taken by the Main Administration, Offices for Rationalization and Inventions were created in almost all scientific research and medical institutes and have already produced tangible results. The article enumerates a number of interesting inventions and other achievements.

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ISAKHANOV, Pavel Mikhaylovich, First Deputy Chief, Main Administration of Public Health, Moscow City Executive Committee, Candidate of Medical Sciences

"The Future of Moscow Medicine"

Moscow, Moskovskaya Pravda, 2 Sep 73, p 2

Abstract: During the past Five-Year Plan 114 large polyclinics were built in Moscow, and now 80 percent of all Moscow public health institutions are housed in special buildings. A typical polyclinic will have a capacity of 1,800 visits a day for adults and 1,200 visits for children. It will have up to 20 multiline therapeutic and diagnostic rooms equipped with ultramodern diagnostic and prehospital therapeutic facilities.

Prophylaxis is the watchword of the Soviet public health services, and therefore great importance is attached to early diagnosis. Special diagnostic centers have been already created in ten Moscow rayons, and are staffed with highly skilled specialists and equipped with the most sophisticated apparatus. Beside their practical value, these centers are of didactic importance for teaching and training physicians. Following the pattern of general diagnostic centers the diagnostic and consultation rooms

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ISAKHANOV, Pavel Mikhaylovich, Moskovskaya Pravda, 2 Sep 73, p 2

are being created for individual specialties. The material base and organization of first aid is being perfected; first and emergency aid are being unified and an emergency children's prehospital aid has been organized.

In the future all the city hospitals will be multiline. Since the multiline treatment can be provided only in large hospitals, the building of hospitals for 1,000 and more beds is being planned. So far 35 hospitals have been converter to multiline units with 900 beds or more. Large specialized subdivisions with no less than 120 beds are being organized within large hospitals. They already encompass 17 specialties. Gastrointestinal diseases of noninfectious character are given serious attention. Recently the Scientific Research Institute of Gastroenterology was subordinated to the Moscow City Executive Committee. Its number of beds will be increased from 120 to 600.

The automation of hospitalization using electronic technology is being planned and will be introduced in the near future. The therapeutic-prophylactic institutions of Moscow will have bilateral selective communication, dictaphone centers, automated biochemical laboratories, and the analysis of medical data will be done by computers.

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USSR UDC 614.3.4.07(470.344-22)

PETROV, N. M., Mariinskiy-Posad Rayon Sanitary-Epidemiological Station, Chuvashskaya ASSR

"Rural Rayon Sanitary-Epidemiological Station"

Moscow, Zdravookhraneniye Rossiyskoy Federatsii, No 4, 1973, pp 15-16

Abstract: The author describes the way this Rayon Sanitary-Epidemiological Station carries out its organizational and methodological activity. Special emphasis is given to improving qualifications of Rayon medical personnel, and toward this end lectures on clinical subjects are periodically delivered and topical problems of prophylaxis against individual diseases are studied at permanent courses. Problems of sanitary-epidemiological services to the population are discussed at meetings of medical workers and at physicians' conferences. The Rayon Sanitary-Epidemiological Station takes an active part in the work of the Creche Council and the Council of Nurses. Great attention is paid to sanitary education for the population and its active participation in improving the sanitary aspects of living conditions. Mass dehelminthization is being carried out using the therapeutic-prophylactic net of the Rayon. Mass vaccinations of children against measles has reduced its incidence during the past 3 years to sporadic

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PETROV, N. M., Zdravookhraneniye Rossiyskoy Federatsii, No 4, 1973, pp 15-16

cases. No incidence of diphtheria was recorded in the Rayon for over 10 years and, during the past 3-4 years, only sporadic cases of whooping-cough were noted. No outbreaks of acute intestinal infections occurred, and there were no mass food poisonings in individual populated areas and in preschool and school institutions.

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## III. ACTIVITIES OF SCIENTIFIC ORGANIZATIONS

USSR

BOKK, E. N., Candidate of Biological Sciences

"Presidium of the Siberian Department of VASKhNIL"

Novosibirsk, Sibirskiy Vestnik Sel'skokhozyaystvennoy Nauki, No 3, 1973, pp 104-105

Translation: The activity of scientific institutions of the Siberian Department of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin [VASKhNIL] is aimed at the speedy implementation of decrees of the 24th Congress CPSU and the further increase of agricultural production in the regions of Siberia and the Far East. Therefore, it is no mere chance that at the meetings of the Presidium of the Siberian Department of VASKhNIL great attention was paid to specialization problems and to basic directions of the work of scientific research institutes.

In discussing topical plans of scientific research for 1973 the necessity was pointed out for concentrating the efforts of scientists on elaborating the most important problems of agriculture and on their complex solution. Attention was paid to the accuracy of formulations of problems and additional tasks of the State Committee for Science and Technology of the Council of Ministers USSR, concrete definition of subjects



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BOKK, E. N., Sibirskiy Vestnik Sel'skokhozyaystvennoy Nauki, No 3, 1973, pp 104-105

and their subdivisions, and the necessity of adhering to the deadlines for the completion of research. A form of the thematical plan has been recommended which would envisage, in addition the the expected results of the work, a brief characterization of topics to be worked out in the current year.

The first thematic plan examined was that of the scientific research work of the Siberian Scientific Research Institute of Agricultural Economy, worked out on the basis of the State and departmental coordination plans. It consists of 9 themes and 29 subdivisions comprising basic problems in agricultural economy. The plan envisages carrying out research in the rational distribution and long-term development of agricultural production, improving systems of agricultural economy management, rationally utilizing land reserves, increasing the effectiveness of capital investments, working out the scientific organization of labor, and a number of other problems.

The Siberian Scientific Research Institute of the Mechanization and Electrification of Agriculture is to perform a large volume of work. In particular, the Institute will continue to work out recommendations on promising systems of machines and mechanized equipment and will carry on research connected with the creation of an Information-



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BOKK, E. N., Sibirskiy Vestnik Sel'skokhozyaystvennoy Nauki, No 3, 1973, pp 104-105

Computer System of Agricultural Production Control (IVSUSKhP). A number of themes are devoted to the search for methods of rational exploitation of machine-and-tractor fleets of kolkhozes and sovkhozes, diagnosis and reliability of agricultural equipment, and to problems of the electrification of agrioultural production.

The thematic plan of the Siberian Soientific Research and Design Technological Institute of Animal Husbandry includes 22 themes and 92 subdivisions. The Institute is engaged in elaborating industrial technologies of the production of animal husbandry items on large livestock farms, realizing the improvement of existing and development of new high-productive breeds of agricultural animals, carrying out research on silage technology and feed preservation, and working out recommendations on the creation and utilization of irrigated pasture grounds in the steppe and forest-steppe zones of Siberia.

Soientific workers of SibNIICKh [Siberian Scientific Research Institute of Agriculture] will have to solve a wide range of problems. Along with the selection of agricultural crops and work in the domain of agriculture, the Institute will realize the improvement of ways to better natural pasture lands, development of technology of



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BOKK, E. N., Sibirskiy Vestnik Sel'skokhozyaystvennoy Nauki, No 3, 1973, pp 104-105

milk production and products of meat-and-wool sheep husbandry, improvement of the red steppe-breed of horned cattle and the Omsk breed group of sheep, and further mechanization of agricultural processes.

Thematic plans of the Siberian Scientific Research Institute of Chemistry, the Siberian Scientific Research Institute of Feeds, the All-Union Scientific Research Institute of Soya, and the Scientific Research Institute of Agriculture of the Far East have been considerably improved as compared with last year. In their improvement the remarks and wishes expressed at the meetings of the Presidium were taken into account.

The Presidium of the Siberian Department of VASKhNIL has approved the initiative of the rectorate and professorial-teaching staff of the Novosibirsk Agricultural Institute for the improvement of scientific research work in this Institute. In essence a search is being made to find the most rational way to combine the educational process and scientific research in order to solve the vital problems of agricultural production of Siberia and the Far East and improve the training of scientific cadres for the Siberian Center of Agricultural Science. In accordance with the envisaged thematic



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BOKK, E. N., Sibirskiy Vestnik Sel'skokhozyaystvennoy Nauki, No 3, 1973, pp 104-105

plan the Institute will have to work out technologies of the programmed yields of crops, substantiated formulas of granulated single and mixed feeds for use in the cattle husbandry, and a number of other topics. The research work relative to a number of complex problems based on economic agreements with Siberian Department of the VASKhNIL has already begun.

In the discussion of problems connected with examination of thematic plans and basic directions of the work of institutes have participated members of the Presidium of Siberian Department of the VASKhNIL, directors and leading scientists of scientific institutions, and specialists in agriculture.

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"Measures for Conservation of Nature in Latvia"

Moscow, Priroda, No 5, 1973

Translation: The Presidium of the Supreme Soviet Latvian SSR examined the problem of the observance of legislation on preserving nature in the republic and noted that the local councils of workers' deputies, ministries, departments, enterprises, sovkhozes, kolkhozes, and other organizations together with the Society for the Preservation of Nature and Monuments Latvian SSR, fulfilling the important tasks of intensifying the conservation of nature and improving the use of natural resources, made some advances in the implementation of measures directed toward the observance of the legislation providing for the conservation of nature and a rational use of natural resources.

In the republic significant work is being done on expanding the area of cultivated land, the use of water and timber resources is being improved, green belts have been established around cities, and the management of the fish industry is being improved. Measures are being taken to prevent the pollution of the atmospheric air and reservoirs, to rationally use underground water, and to protect soil against wind and water erosion. The volumes of capital investments for the implementation of measures for the conservation of nature and for the construction of sewage-treating, gaspurifying, and dust-collecting installations are increasing annually. For example, as a result of the

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Priroda, No 5, 1973

measures taken to conserve water, the amount of sewage treated inoreased 1.6 times in the republic during the past five-year plan.

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USSR

RATGAUZ, S.

"Belorussian Zoologists Study Aquatic Animal Ecology"

Minsk, Sovetskaya Belorussiya, 4 Nov 73, p 4

Translation: Pontoporea, Gammarus, Polyartemia, Daphnia magna... For the uninitiated these words sound somewhat enigmatic. But they are the names of small crustaceans in many water bodies. And although there is a kinship of long standing between this small lacustrine fry, their habitats are, as a rule, very different, ranging from a comparatively moderate climate of Belorussia to the inciement extreme north and the cloud-enshrouded tableland... Their story was told to me at the Division of Zoology and Parasitology of the Belorussian Academy of Sciencos where I came to meet the members of a scientific expedition that visited the 69th parallel.

This parallel passes through Taimyr, an uninhabited country with numerous, sometimes still unnamed, water bodies. The Minsk scientists visited it for the first time. Their tents were pitched on the plateau of Putoran in a completely deserted place. All around, for hundreds of kilometers, there was not a single man, and a stone's throw away was the Artic Ocean. Before the group of soientists headed by N. N. Khmeleva, senior soientific associate and Candidate of Biological Scienoes, stretched the silent tundra.

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RATGAUZ, S., Sovetskaya Belorussiya, 4 Nov 73, p 4

Conditions of work were not easy. Dressed in tarpaulin overalls and hip boots, and protected against mosquitoes by dense face nets, five members of the group spent 69 days first on the shore of the Sobach'ye Lake and then by Alysel' Lake in the area of Dudinka, which was also the subject of research but had no name. The Minsk scientists have named it Model'nyy.

For more than two months Belorussian biologists studied regularities of the growth, development, and propagation of aquatic animals of those species that they had earlier encountered in Belorussia.

Another expedition of Minsk scientists from the Division of Zoology, headed by Candidate of Biological Sciences G. A. Galkovskaya, carried out the same work under different conditions on the numerous water bodies of the mountain districts of Kazakhstan and Kirgizia, on the Trans-Ili Ala-tau, on the Northern and Central Tien-Shan.

The present year [1973] was for zoologists abounding in expeditions. Two more scientific units were out for 40-45 days in Karelia and Murmanskaya Oblast. One of these units operated in the Trans-Onega region and the other near the White Sea on

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RATGAUZ, S., Sovetskaya Belorussiya, 4 Nov 73, p 4

Zelenetskoye Lake. The tasks being solved were the same as those dealt with by the Taimyr and Tien-Shan expeditions.

The results of the work of four expeditions were summed up by Head of the Division of Zoology and Parasitology of the Belorussian Academy of Sciences and Corresponding Member of the Academy L. M. Sushchen'ya.

"A stable temperature is seldom found in nature. And its fluctuations naturally affect the ecological system of water bodies.

"The expeditions were organized by a new Laboratory of Experimental Aquatic Animal Ecology. In the same way, for example, as it is important to know the sum of heat necessary for the development of the hen's egg and an animal's fetus, we need information on the temperature necessary for the growth of the fish and crustaceans in question. All these expeditions from Minsk were solving problems connected with the action of temperatures under specific conditions of various geographical zones.

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RATGAUZ, S., Sovetskaya Belorussiya, 4 Nov 73, p 4

"The scientific data obtained will make it possible to better evaluate the influence of changing temperatures on the effectiveness of animal growth and on their produotiveness. This data is of extreme importanoe not only for working out a theory of animal growth but also for elaboration of practical recommendations for artificial breeding of many valuable invertebrate upon their transplantation into new water bodies as a food for fishes."

The expedition year has not yet ended. Head of the Division and Corresponding Member of the Belorussian Academy of Sciences L. M. Sushchen'ya apparently intends to leave soon for a distant trip. He has been invited to take part in a voyage of the scientific research vessel of the Academy of Sciences USSR, "Academician Kurchatov." Its cruise will take it along the eastern part of the Pacific Ocean near the shores of Peru and Equador. Beneath the vessel will stretch the so-called Peruvian Trough.

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USSR

KOROLEVA, I., correspondent of "Novosti" News Agency

"Krill -- a Valuable Food Source From the Ocean"

Minsk, Sovetskaya Belorussiya, 4 Nov 73, p 4

Translation: The paste "Ocean," an alimentary product rich in full-value proteins, has been obtained for the first time in the world from krill (a small Antarctic shrimp) by the All-Union Scientific Research Institute of Fishing and Oceanography (VNIRO). This fact is commented upon in an interview with the head of the Laboratory of Invertebrate Technology, Candidate of Technical Sciences, and laureate of the State Prize USSR, L. L. Lagunov.

Question: Lev L'vovich, what causes the present interest in krill?

Answer: The ocean as a source of nutrition is so far used rather insufficiently. Thus the world-wide catch of fish now amounts to 70 million tons per annum. In the opinion of Soviet and foreign scientists this figure may be increased to 100-110 million tons. The ocean may also yield a similar amount of krill.

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KOROLEVA, I., Sovetskaya Belorussiya, 4 Nov 73, p 4

Oceans give many things to man, but they also require a careful attitude toward them. In order to preserve traditional species of fishes it is necessary to limit the catch and shift our attention to the increased extraction of non-fish items, viz., invertebrates, mollusks, algae, and krill. This is one of the reserves permitting the reproduction of ocean riches.

Question: How is the krill paste prepared?

Answer: The fishing vessels put out to sea in November and return in May. The fishing period itself lasts only three months. In order to preserve the paste, a very delicate product, it is necessary to process the raw material at sea.

Our Institute developed a special trawl net for fishing krill, created equipment to produce the paste, and selected the necessary temperature conditions to preserve it. The reddish crustaceans brought on board are placed in a large bunker. They are kept there no longer than four hours. Then the krill is pressed. The creamlike mass is treated with hot steam, after which it assumes the form of vividly pink curds. Then it is frozen. Finally briquettes of paste, carefully wrapped in cellophane, are packed in boxes. The "Ocean" paste can be preserved for an entire year at the temperature of

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KOROLEVA, I., Sovetskaya Belorussiya, 4 Nov 73, p 4

minus 18°C. The pulp (shells, etc.) is also not wasted. From it a feed meal is prepared. The paste itself contains 15-18 percent protein, 2-5 percent fat, and 2-3 percent mineral substances.

Question: What products are made from this paste?

Answer: The Association "Moloko" [Milk] of the Ministry of Meat and Dairy Industry USSR has organized industrial production of the processed cheese "Korall" with krill. The Adler Fish Processing Plant produces "shrimp butter" (the "Ocean" paste combined with creamery butter and cheese), and "salad mass" (krill with mayonnaise). The Moscow Fish Processing Combine produces fish that is stuffed with krill.

We should note that the inclusion in alimentary rations of this kind of products regulates protein and fat metabolism in the organism. With its amino-acid composition the protein of the krill paste competes with egg protein, chicken meat, lobster, and shrimp.

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USSR

VIKTOROV, A., non-staff oorrespondent of "Izvestiya"

"Mysteries of Meteorites"

Moscow, Izvestiya, 17 Nov 73, p 6

Translation: Many guesses and hypotheses have marked the history of studying the origin of meteorites and their fall to earth. Now students of magnetic phenomena have moved into this field of study.

One of these scientists, a senior scientific associate of the Leningrad Division of the Institute of Terrestrial Magnetism, the Ionosphere and the Propagation of Radio Waves of the USSR Academy of Sciences, is Ye. Gus'kova, author of the recent "Magnetic Properties of Meteorites."

Where have not Yelena Grigor'yevna and her colleagues traveled in the past few years, studying the magnetic properties of meteorites preserved at Moscow, Leningrad, Kiev, Tallin, Tartu, Sverdlovsk, Kazan' Odessa, L'vov? They have studied samples of the meteorite rain which in 1947 fell in the foothills of the Sikhote-Alin' Range in Primorskiy Kray. All this research has been directed toward discovering what physical conditions existed at the time of formation of the progenitors of meteoritic bodies.

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VIKTOROV, A., Izvestiya, 17 Nov 73, p 6

Of particular interest is the month-long scientific mission carried out by Ye. Gus'kova in cooperation with the Leningrad magnitologist E. Gorshkov in India. Working with the Indian Institute of Geophysical Research, these Soviet scientists studied one of the largest meteorite collections in the world -- that at Calcutta.

"We were able to obtain valuable data on the physical conditions attending the birth of meteorites and on the properties of those bodies," Ye. Gus'kova informed us. "Then we studied one of the sixty oldest craters on the face of the earth, located near Bombey. This crater is two kilometers in diameter and more than 100 meters deep, with a lake in the center; the crater is comparatively well-preserved. It was our aim to establish the natural characteristics of this geological formation. We collected almost 100 samples of basalt, whose magnetic properties we tested in the laboratory. We were able to reach a conclusion regarding the meteorite itself, but not the volcanic material of the crater formed more than a billion years ago."

Now a new stage in studying the magnetic properties of meteors has begun. Modern equipment has opened new possibilities in this field (the study of stone meteors). These bodies are of interest since they are the progenitors of the so-called protoplanet, or cloud, from which, in the view of scientists, were formed all planets of the solar system.

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## IV. CRITICISM AND COMMENTARY

USSR

POLAK, A., director of the Scientific Research Institute of Industrial Engineering

"A Need for Better Coordination of the Activities of Scientific Research Institutes"

Moscow, Pravda, 6 Oct 73, p 2

Abstract: The State Committee for Construction of the Council of Ministers USSR, [Gosstroy] has made the laboratories of leading scientific research institutes responsible for coordination of the work carried out by various organizations. The practice shows, however, that this is not the best solution. The workers of such laboratories care first for their own elaborations and are not always objective regarding the ideas developed by other institutes. This decreases the effectiveness of scientific research, causes damage to the national economy, and adversely affects creative activity of the institutes "under wardship."

There is no definite system for research methods and practical realization of elaborations and no unified work plans based on a single procedure, obligatory for all the participants. As a consequence, each institute uses its own approach toward research and its own terminology to describe the same phenomena. The results are disparate,

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POLAK, A., Pravda, 6 Oct 73, p 2

offer no integrated solutions of problems under consideration, and delays implementation. Several well-substantiated examples of noncoordination are quoted. In some cases delay amounted to one year. The interdepartmental commissions of Gosstroy for particular problems work only periodically and, as experience showed, cannot play an operational role.

The author suggests that the leading institutes should become not only formally but in fact the fullfledged coordination centers. For solving important complex problems, in which a number of organizations participate, the efforts of researchers should be united by a single over-all plan using a single approach and method. In drawing up such plans and in the discussion of results achieved, the representatives of all organizations involved should participate. It is also desirable that the representatives of design organizations should play an active role in the coordination work and thus learn what novelties should be introduced into the projects. The participation is also necessary of the representatives of corresponding ministries, main administrations, and construction trusts responsible for experimental, experimental-industrial, and demonstrative introduction of results which can be used for the establishment of the new normalized specifications.

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UDODOV, P., professor; RASSKAZOV, N., docent; NAZAROV, A., scientific associate; all from Tomsk Polytechnical Institute, and BYKOVA, V., senior scientific associate, Tomsk Scientific Research Institute of Health Resorts Science

"A Spa in the Ob' River Area?"

Moscow, Izvestiya, 18 Sep 73, p 5

Translation: There is a wealth of natural resources in the Ob' River area around Tomsk. There have been discoveries of large deposits of oil and gas, iron ore, quartz sands, and porcelain clay. Forestry, wood products, precision instrument-building, and the electrical engineering industries are developing rapidly. The youngest sector of Siberian industry, petroleum extraction, is gaining strength. New railroads and the large Alekzandrovkoye-Tomsk-Anzhero-Sudzhensk pipeline have recently been put into operation.

The swift development of productive forces has led to population growth, especially in the northern regions of the Ob'. As is known, the climate in our region is very severe. It is therefore especially important to protect the health of those who are opening up the taiga area.

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UDODOV, P., et al., Izvestiya, 18 Sep 73, p 5

There is still not a single spa or sanitarium in Tomskaya Oblast. Siberians must be treated in remote southern spas. This not only entails expenses for social insurance and sizable losses of time, but also sometimes has an unfavorable effect on people's health. It is not always good to experience a change of climates. Many people need sanitarium treatment right on the spot.

The earth of our Oblast is rich in diverse mineral waters, all of high quality. The reserves are such that these life-giving sources could support the operation of many sanatariums and water treatment spots.

The first radioactive waters have been found. The most promising of these are the springs near the village Zavarzino. They have been studied by associates of the Tomsk Polytechnical Institute and the Tomsk Scientific Research Institute of Health Resort Science and by a geological expedition.

Valuable underground mineral water sources have been discovered at many places in the Ob' area during petroleum exploration operations carried out by the Novosibirsk and Tomsk Geological Administrations. The greatest practical interest in the curative

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UDODOV, P., et al, Izvestiya, 18 Sep 73, p 5

springs in Kolpashevskiy, Aleksandrovskiy, Verkheketskiy, Kozhevnikovskiy, and Tomskiy Rayons. Here it is possible to open clinics and spas similar to those at Maykop, Kal'chik, Karacha, and Kopetdag and to easily organize the large scale extraction of mineral waters and ensure their availability to the population.

There are also good prospects for the iodine, boron and siliceous waters of Aleksandrovskiy rayon, an area of intensive development of the petroleum extraction industry. Here, a few kilometers from the Strezhevoy petroleum center of Tomskaya Oblast sodium-chloride thermal waters have been brought to the surface. The wells produce up to 1,200 cubic meters daily, quite enough to support the operation of a large clinic. There is also peat mud, a very valuable curative agent which can be heated by the thermal waters. The curative springs of Strezhevoy could well serve the petroleum workers of Samotlar, Siberia's largest deposit of the black gold.

Not far from the northern city of Kolpashev on the Ob', near the village of Chazhemto, there is a remarkable possibility of creating sort of a Matsesta (spa in the Caucasus) for Tomskaya Oblast. Using hydrogen sulfide waters which are rare for Western Siberia one could, in the opinion of many specialists, develop a large spa for Siberia.

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UDODOV, P., et al., Izvestiya, 18 Sep 73, p 5

Sodium-chloride thermal waters are located in a sizable part of the Oblast's territory. The presence of iodine and bromine in these waters expands the range of their utilization. Bromine normalizes the activity of the nervous system, helps eliminate disease symptoms in the intestine, and restores the functions of the liver and the gall bladder. Iodine is useful for treating inflammations. In general, the Tomsk waters and mud could find widespread applications in treating cardiovascular, nervous, stomach, intestine, skin, and other diseases.

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VOSTRUKHOV, Ye.

"Izvestiya Correspondent Comments"

Moscow, Izvestiya, 18 Sep 73, p 5

Translation: The very rich health resources which the Tomsk specialists write about are still not being utilized. In spite of the fact that almost all of the mineral waters have been sufficiently well studied, their reserves have not been accurately estimated by territorial or state commissions for reserves of useful minerals. Two years ago the Tomsk Scientific Research Institute of Health Resort Science turned to the Ministry of Geology RSFSR with a request to carry out additional exploration and survey work on the Zavarzino deposit of radon water, located a dozen kilometers from Tomsk. Although the radioactive springs have long been known, their size has not been accurately determined. In addition the water temperature hinders its use for therapeutic purposes. However, specialists, on the basis of data on the geological structure of the southern section of the Oblast, state that deep drilling might locate hotter radioactive waters.

Strange as it may seem, the Central Scientific Research Institute of Health Resort Science and Physiotherapy of the Ministry of Health USSR was against this request.

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VOSTRUKHOV, Ye., Izvestiya, 18 Sep 73, p 5

When approached by the Ministry of Geology RSFSR, the directors of this Institute answered that "As previously, the Institute feels that it is inadvisable to carry out new exploratory survey work on the Zabarzino deposit of radon waters." The reason is the low water temperature and the presence of other promising deposits in nearby regions of Siberia.

The response of the Institute looks quite like simple a formalized reply. The Tomsk workers want to drill a deep well in order to find hot radon water. As far as concerns the reference to the initial development of other promising deposits, the Institute has made no steps to do this in Tomskaya Oblast.

Five years ago the Executive Committee of the Oblast Council of Workers' Deputies and the Presidium of the Oblast Council of Trade Unions passed a joint decree on the development of sanatoriums in the Oblast. It suggested taking the necessary measures to build a cardiological and nervous disease center for 500 patients near Tomsk during 1971-1975. It also reached a solution on the problem of building a sanatorium and preventative health treatment center near the Chazhemto sulfide waters, and to have the Tomsk scientists study other mineral springs and make recommendations on their

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VOSTRUKHOV, Ye., Izvestiya, 18 Sep 73, p 5

practical utilization. An effective, proven method of developing the health resources was also suggested. The construction of the sanatoriums by various departments on a cooperative basis.

However, in addition to good decisions, it is also necessary to supervise their implementation and to display initiative and purposefullness of direction. Good beginnings are simply not enough. Workers at the Oblast Agricultural Administration and the Tomlesprom Association could not find a common language and purpose enabling them to jointly build and open a cooperative preventative health clinic. It is also a shame that neither the Executive Committee of the Oblast Counoil nor the Presidium of the Trade Union Council paid any more attention to their decree.

One can also reproach the managers of the Oblast Health Department for passivity. Who should be more persistent than they in seeing to it that these goals are achieved? The Oblast has a large number of big enterprises where many thousands of petroleum workers, builders, loggers, and wood workers are employed. Local plants, factories, kolkhozes, and sovkhozes have extensive potential and resources. Perhaps some of



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VOSTRUKHOV, Ye., Izvestiya, 18 Sep 73, p 5

their resources could be directed toward construction of interdepartmental water treatment therapy centers, preventative clinics, and inexpensive sanatoriums.

The Ministry of Health USSR, the Central Health Resort Council of the All-Union Council of Trade Unions, and Gosplan RSFSR should direct their attention to the very favorable possibilities for the new health resort-sanatoriums facilities in Siberia.

In our opinion it is essential to begin on the spot and to return to the decision to create a Siberian Matsesta a little ways from Tomsk.

## V. AWARDS, CONTESTS, APPOINTMENTS, AND PERSONALITIES

USSR

"Yu. N. Denisyuk"

Nauka i Chelovechstvo (Science and Mankind); Moscow, "Znaniya," 1972, 399 pp

Translation: Yuriy Nikolayevich Denisyuk. (Born 1927). He is a physicist and Corresponding Member of the Academy of Sciences USSR. He was born in Sochi. In 1954 he graduated from the Leningrad Institute of Precision Mechanics and Optics. In 1964 he defended his candidate's dissertation. The academic rank of Doctor of Physicomathematical Sciences was conferred on him in 1971.

Yu. N. Denisyuk's scientific works pertain to physical optics, most of them dealing with the photographic method of recording wave fields, i.e. holography. In 1962 he proposed and substantiated the method of holography with a record in three-dimensional media, which for the first time made it possible to unequivocally record the phase, amplitude, and spectral composition of the wave field of an object and to obtain its undistorted spatial image. This method is now the most common holographic method. In the last few years, while continuing to work on holography in three-dimensional media, Yu. N. Denisyuk has also paid much attention to the development of various methods of



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Nauka i Chelovechstvo, "Znaniya," 1972, 399 pp

the practical use of holography. In particular he and his associates proposed methods of recording holograms when reference and object beams are incoherent, the method of averaging wave fronts, etc.

Yu. N. Denisyuk is the author of more than 60 scientific papers. In 1970 for the series of works Golografiya s Zapis'yu v Trekhmernoy Srede (Holography With A Record in a Three-Dimensional Medium) Yu. N. Denisyuk was awarded the Lenin Prize. In the same year he was elected Corresponding Member of the Academy of Sciences USSR.

USSR

"V. A. Kovda"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 4, 1973, pp 612-613

Translation: The International Scientific Prize and UNESCO Medal for 1972 were awarded to Corresponding Member of the Academy of Sciences USSR Viktor Abramovich Kovda, director of the Institute of Agrochemistry and Soil Science, "for his outstanding contribution to the development of theoretical and applied sciences in soil science, primarily in the domain of land reclamation and utilization of salined soils in droughty regions."

This prize and medal was established about seven years ago by a decision of the General Conference of UNESCO to stimulate studies of interest to the developing countries of Asia, Africa, and Latin America. A Soviet scientist was awarded this Prize for the first time when the Prize and Medal were conferred upon V. A. Kovda on 22 November 1972 in Paris at a special function organized by the General Director of the UNESCO, R. Maheu.

V. A. Kovda's scientific activity has made a great contribution to the development of modern scientific and theoretical soil science, the solution of complex problems of irrigating steppes and deserts of the world and the USSR, and the expansion of international contacts of the Soviet soil science with that of foreign countries.

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Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 4, 1973, pp 612-613

V. A. Kovda has worked out a number of new general theoretical problems of soil science and has proposed methods for solving many practical questions in the amelioration of soils. He founded the theory of a biogeochemical development of the soils of water-accumulating plains. Studying soils of the USSR, Africa, Asia, and Latin America enabled V. A. Kovda, during the last decade, to advance a new historicogenetic concept of the soil-forming process. On the basis of examples of the USSR, Korean People's Republic, Pakistan, Iran, Egypt, and other countries, he studied the phenomenon of the secondary salinization of irrigated soils, worked out problems of salt balance of soils and its regulation, and proposed ways to prevent these destructive processes and methods for their liquidation (3-4 m deep trenching and drainage, leaching, etc.). V. A. Kovda has substantiated the possibility of using weakly mineralized waters for amelioration and irrigation of salined soils. Based on his proposal in Tunisia a UNESCO Experimental Station was organized whose work confirmed the expediency of using weakly mineralized waters under controlled conditions.

In order to help the developing countries of the arid zone V. A. Kovda has organized within the framework of the UNESCO/FAO program, the preparation of the book "The International Manual of Irrigation and Drainage of Droughty Lands," published in Russian and

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Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 4, 1973, pp 612-613

English, which is a reference book for specialists of various countries. The works of V. A. Kovda on the problem "Man and Biosphere" have become widely known. V. A. Kovda is a honorary member of the Indian Society of Soil Scientists, Academician of the World Academy of Arts and Sciences, honorary doctor of Ghent University, honorary member of the Hungarian Society of Soil Scientists, chairman of the All-Union Society of Soil Scientists, and chairman of the Tenth International Congress of Soil Scientists to be held in Moscow in 1974.

At present V. A. Kovda heads the recently organized Institute of Agrochemistry and Soil Science of the Academy of Sciences USSR, which will study problems of agrochemistry, soil science, and soil reclamation.

Awarding the Prize and Medal of UNESCO to V. A. Kovda constitutes international recognition of the contribution of a Soviet scientist to the development of soil science as well as recognition of international importance of the Soviet soil science.

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USSR

"S. R. Mardashev"

Nauka i Chelovechestvo (Science and Mankind); Moscow, "Znaniye," 1972, 399 pp

Translation: Sergey Rufovich Mardashev. (Born in 1906). He is a biochemist, Doctor of Biological Sciences, professor, academician, and vice-president of the Academy of Medical Sciences USSR. He was born in Leningrad. In 1930 he graduated from the Second Leningrad Medical Institute. Since 1962 S. R. Mardashev has been working in the Academy of Medical Sciences USSR. Since 1963 he has been vice-president of the Academy of Medical Sciences USSR. At the same time (from 1952) he heads the Chair of Biochemistry of the First Moscow Medical Institute imeni I. M. Sechenov. S. R. Mardashev is a State Prize laureate and Hero of Socialist Labor. He was awarded three Orders of Lenin, two Orders of Labor Red Banner, the Order of the October Revolution, and orders of the Bulgarian People's Republic, the Czechoslovak Socialist Republic, and the Democratic Republic of Vietnam.

S. R. Mardashev's works in the biochemistry and physiology of microorganisms have received wide recognition in world science. He isolated two new microorganisms which contain specific enzymes (decarboxylases of aspartic acid and histidine), was the first to describe their physiological and biochemical properties, and developed a new quantitative method of determining aspartic acid and histidine in objects of a biological

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Nauka i Chelovechestvo; "Znaniye," 1972, 399 pp

origin. He was the first to isolate acrystalline histidine-decarboxylase from bacteria and to study its physicochemical properties (the aminoacid composition, molecular weight, kinetics of inhibition with various histidine antimetabolites, etc.). He developed original methods of enzyme diagnosis of liver, kidney, and pancreas diseases. These works are of great general biological and medical importance.

S. R. Mardashev is the author of more than 120 scientific papers, including several monographs. He is one of the authors of the textbook of biochemistry for medical higher educational institutions which was published four times in the USSR and translated into many foreign languages. S. R. Mardashev is vice-president of the All-Union Society of Biochemists and a member of the Council of the International Society of Biochemists.

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USSR

"M. Ya. Marov"

Nauka i Chelovechestvo (Science and Mankind); Moscow, "Znaniye," 1972, 399 pp

Translation: Mikhail Yakovlevich Marov. (Born 1933). He is a specialist in planetary physics and physics of the upper atmosphere (aeronomy) and Doctor of Physico-mathematical Sciences. He was born in Moscow. He graduated from the Moscow Higher Technical School imeni N. E. Bauman and completed his graduate studies at the Institute of Physics of the Atmosphere. He specialized in space physics. He obtained a number of new results in the study of the structure of the earth's thermosphere and is working on mathematical methods of modeling planetary atmospheres. M. Ya. Marov took a direct part in the experiments on the Venera-4-7 automatic stations, by means of which new data on the physics of Venus was obtained. M. Ya. Marov published more than 70 scientific papers. M. Ya. Marov takes an active part in the work of various international organizations. He was elected a member of the working groups of the Committee on Space Research (KOSPAR) and heads the problem commission in the International Association of Geomagnetism and Aeronomy (MAGA).

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USSR

"N. N. Moiseyev"

Nauka i Cheloveohstvo (Scienoe and Mankind); Moscow, "Znaniye," 1972, 399 pp

Translation: Nikita Nikolayevioh Moiseyev. (Born 1917). He is a mathematician and Corresponding Member of the Acader of Soiences USSR. He was born in Mosoow. In 1941 he graduated from the Meohanical and Mathematical Faculty (Chair of Mathematios) of Moscow State University. From 1941 to 1948 he worked at Rostov State University. In 1954 he defended his doctoral dissertation on the development of mathematical methods in hydrodynamios. Since 1955 he has been working in the Computer Center of the Academy of Sciences USSR and teaohing in the Moscow Physicotechnical Institute. At present he is deputy director of the Computer Center of the Academy of Sciences USSR and dean of the Faculty of Control and Applied Mathematics of the Mosoow Physicotechnical Institute. In 1966 N. N. Moiseyev was elected Corresponding member of the Academy of Sciences USSR. The use of eleotronic oomputer equipment for solving mathematical problems arising in the theory of control is the main direction in N. N. Moiseyev's works. N. N. Moiseyev is the author of more than 80 papers on various problems of applied mathematios, including four monographs.

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"D. V. Nalivkin"

Nauka i Cheloveohestvo (Scienoe and Mankind); Moscow, "Znaniye," 1972, 399 pp

Translation: Dmitriy Vasil'yevich Nalivkin. (Born in 1889). He is a geologist and paleontologist, academician, and Lenin and State Prize laureate. He graduated from the Mining Institute in Petrograd in 1915 and was a professor there after 1920. From 1917 to 1949 he worked in the Geological Committee. In 1933 he was elected corresponding member of the Academy of Sciences USSR, and in 1946 academician. From 1946 to 1951 D. V. Nalivkin was chairman of the presidium of the Turkmen Affiliate of the Academy of Sciences USSR. In 1949 he was awarded the Gold Medal imeni A. P. Karpinskiy by the Academy of Scienoes USSR. In 1951 he was given the title honorary member of the Academy of Sciences Turkmen SSR.

D. V. Nalivkin's basio works deal with the stratigraphy and paleography of the Paleozoic era of the Urals, Central Asia, and the Russian plateau. He was the first to develop and to give an original oourse on facies. He was awarded the Lenin Prize for the monograph in two volumes entitled "Ucheniye o Fatsiyakh" (The Study of Facies). In the last few years D. V. Nalivkin has also engaged in the study of oatastrophic atmospheric processes, i.e., winds, hurrioanes, and storms.

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"A. S. Sadykov"

Nauka i Chelovechestvo (Science and Mankind); Moscow, "Znaniye," 1972, 399 pp

Translation: Abid Sadykovich Sadykov. (Born 1913). He is a chemist, specialist in organic chemistry, Doctor of Chemical Sciences, professor, president of the Academy of Sciences Uzbek SSR, Corresponding Member of the Academy of Sciences USSR, and Honored Scientist and Technician Uzbek SSR. He was born into a craftsman's family in Tashkent. In 1937 he graduated from the Chemical Department of Tashkent University. In 1940 and 1945 respectively he defended his candidate's and doctoral dissertations. In 1947 he was elected Academician of the Academy of Scienoes Uzbek SSR and in 1966 Corresponding Member of the Academy of Sciences USSR.

The beginning of A. S. Sadykov's scientific activity coincides with the beginning of the development of chemical science in Central Asia, including in Uzbekistan. He is the founder of an original direction in the chemistry of natural compounds. Of great importance are his works pertaining to studying vegetative compounds of the cotton plant, as well as works on the alkaloids of the wild flora of Central Asia. In studying the chemical structure of substances in connection with their physiological functions in the plant organism, A. S. Sadykov contributed to the formation of a new field



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Nauka i Chelovechestvo; "Znaniye," 1972, 399 pp

of science, i.e., bioorganic chemistry. Recently he has begun to search for measures of controlling wilt -- a disease which does great damage to cotton growing.

A. S. Sadykov combines his scientific and scientific organizational activity with pedagogical work. From 1958 to 1966 he was rector of Tashkent University. There he has for many years headed one of the first Chairs of Chemistry of Natural Compounds in the Soviet Union. From 1963 to 1967 A. S. Sadykov was chairman of the republic's Supreme Soviet. In 1966 he was elected a deputy of the Supreme Soviet USSR.

USSR

"I. S. Shkovskiy"

Nauka i Cheloveohestvo (Science and Mankind); Mosoow, "Znaniye," 1972, 399 pp

Translation: Iosif Samuilovich Shklovskiy. (Born 1916). He is a specialist in astrophysics and radio astronomy, Doctor of Physicomathematical Sciences, professor, Corresponding Member of the Academy of Scienoes USSR, and Lenin Prize laureate. In 1938 he graduated from the Faculty of Physics of Mosoow State University, and in 1941 he completed his graduate studies in astrophysios at the State Astronomical Institute imeni P. K. Shternberg (GAISh). He heads the Division of Radio Astronomy at GAISh and the Division of Radio Astronomy and Astrophysios at the Institute of Space Research of the Academy of Sciences USSR. He engages in nearly all the leading fields of astrophysics. He has about 150 published scientific works on various fields of astrophysics, radio astronomy, and geophysics. He is the author of the following monographs: Solnechnaya Korona (The Solar Corona), Kosmioheskoye Radioizlucheniye (Space Radiation), and Sverkhnovyye Zvezdy (Supernovae). In 1960 he received the Lenin Prize for outstanding achievements in scientific research. Since 1962 he has been a member of the Royal Astronomical Society of Great Britain. He is a honorary member of the American Academy of Arts and Sciences, a member of the Canadian Astronomical Society, and a member of the International Academy of Astronautics.

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"A. N. Skrinskiy"

Nauka i Chelovechstvo (Science and Mankind); Moscow, "Znaniye," 1972, 399 pp

Translation: Aleksandr Nikolayevioh Skrinskiy. (Born in 1936). He is a physicist and academician. He was born in Orenburg. During 1953-1959 he was a student at the Faculty of Physics of Moscow University. In 1957 he began working in the Laboratory of New Acceleration Methods of the Institute of Atomic Energy, which was soon transformed into the Institute of Nuclear Physics of the Siberian Department of the Academy of Sciences USSR, where he works now as head of the laboratory and deputy director for science. He is a professor at Novosibirsk University. In 1965 A. N. Skrinskiy defended the dissertation for which he received the degree of Doctor of Physicomathematical Sciences. In 1968 he was elected Corresponding Member of the Academy of Sciences USSR and in 1970 Academician.

A. N. Skrinskiy's basic works were devoted to the development of the counterbeam method, the development of installations with counterelectron-electronic and electron-positron beams, and experiments in elementary particle physics on these installations. He published about 60 papers. In 1967, for participation in the development of the counterbeam method for research on elementary particle physics, A. N. Skrinskiy was awarded the Lenin Prize.

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USSR

"V. A. Troitskaya"

Nauka i Chelovechestvo (Science and Mankind); Mosoow, "Znaniye," 1972, 399 pp

Translation: Valeriya Alekseyevna Troitskaya. (Born 1917). She is a geophysicist and Doctor of Physiocomathematical Scienoes. She was born in Leningrad. In 1940 she graduated from the Faculty of Physios of Leningrad University. In 1941 she began to teaoh in educational institutions in Kazan' and, after moving to Leningrad, worked as an engineer in one of the scientific researoh institutes. In 1950 V. A. Troitskaya began her graduate studies in the Geophysical Institute of the Academy of Sciences USSR which she completed in 1953, defending a dissertation devoted to studies on short-period fluctuations in the earth's electromagnetic field.

V. A. Troitskaya's works formed the basis for the modern ideas in this field. She is the initiator and director of a series of studies in magnetic conjugate points conducted within the framework of Soviet-French and Soviet-Amerioan cooperation. She began and developed a new important trend in the use of short-period fluctuations for observing the processes developing in the earth's magnetosphere. This trend is called the diagnosis of the magnetosphere according to ground data.

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USSR

Nauka i Chelovechestvo; "Znaniye," 1972, 399 pp.

From 1955 to 1961 V. A. Troitskaya was both the scientific secretary of the Committee for the International Geophysical Year (MGG) and director of the working group for terrestrial currents of the Committee for the International Geophysical Year. In 1964 V. A. Troitskaya defended her doctoral dissertation, and the rank of professor was conferred on her in 1966. V. A. Troitskaya is deputy chairman of the Interdepartmental Geophysical Committee of the Academy of Sciences USSR, chairman of the Joint Commission on Aeronomy and Geomagnetism of this oommittee, ohairman of the Scientific Council for Geomagnetism of the Academy of Sciences USSR, and president of the International Association of Geomagnetism and Aeronomy. In 1970 V. A. Troitskaya was elected a member of the German Leopoldina Academy of Naturalists in Halle (GDR) and received the medal of the American Geophysical Union.

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USSR

"S. N. Zhurkov"

Nauka i Chelovechestvo (Science and Mankind); Moscow, "Znaniye," 1972, 399 pp

Translation: Serafim Nikolayevich Zhurkov. (Born in 1905). He is a physicist and academician. He was born in Trubitchini in Lipetskaya Oblast. In 1929 he graduated from the Faculty of Physics and Mathematics of Voronezh University. After 1930 he began his scientific research in the Leningrad Physicotechnical Institute of the Academy of Sciences USSR, where he works now directing the Laboratory of Strength Physics established by him in 1942. In 1938 S. N. Zhurkov defended his candidate's dissertation and in 1947 his doctoral dissertation. In 1958 he was elected Corresponding Member of the Academy of Sciences USSR and in 1968 Academician. He is the author of more than 100 published works.

S. N. Zhurkov's basic scientific interests, whose formation was greatly influenced by A. I. Ioffe, A. P. Aleksandrov, and P. P. Kobeko, are concentrated on the physicomechanical properties of solid bodies. He conducted research of fundamental importance on the attainment of a theoretical strength of solid bodies, the nature of the temperature hardening of polymers, and the clarification of the atomic and molecular mechanism of failure in bodies. Of the greatest importance are works of the latter direction

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Nauka i Chelovechestvo; "Znaniye," 1972, 399 pp

which continue to be intensively developed at present. Here S. N. Zhurkov radically revised the ideas of mechanical failure in solid bodies. S. N. Zhurkov's works demonstrated that the disconnection of atoms during failure in bodies is caused by thermal fluctuations in a body, while the load plays only an activating part. These works, where the new kinetic theory of failure is formed, help to solve the problem of purposefully increasing the strength of bodies.

S. N. Zhurkov is a member of a number of scientific and academic councils of international scientific societies and editor-in-chief of the journal Fizika Tverdogo Tela.

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USSR

ARZHANIKOV, N. S., scientific secretary, Committee for Lenin and State Prizes in Science and Technology of the Council of Ministers USSR, professor

"State Prizes USSR Awarded"

Moscow, Sovetskaya Rossiya, 8 Nov 73, p 3

Abstract: State Prizes USSR awarded in 1973 to Soviet scientists, engineers and technologists are indicative of great advances achieved in furthering the scientific-technical progress of the USSR in leading branches of science and technology. Enumerated, in order of importance, are the achievements of various scientific collectives.

The Belorussian physicists N. A. Borisevich and V. G. Vereshchagin, representing the Soviet physicomathematical school of thought, were awarded prizes for the creation of a new class of optical filters for a wide range of the infrared spectrum, which is increasingly utilized in solving scientific and applied problems in various fields of science and technology.

A major contribution to physical sciences were works of a large group of physicists related to the theory of the photoproduction of mesons, as well as investigations of



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ARZHANIKOV, N. S., Sovetskaya Rossiya, 8 Nov 73, p 3

N. P. Korneychuk, professor of Dnepropetrovsk University, who proposed fundamentally new methods for solving extremal problems of the approximate theory.

The collective of scientists and specialists headed by Academician B. P. Nikol'skiy was awarded a prize for developing a theory of the glass electrode and for describing the electrode properties of glasses. This collective has also solved the problem of automatic control and regulation of the production processes and scientific investigations, based on the magnitude of the acidity index. Another advance in the improvement of the finest technological processes is a new method of a gas electronography developed by N. G. Rambidi and others, permitting investigations of molecular structures with a high degree of accuracy and at high temperatures (up to 2500°).

Investigations of A. D. Shcheglov, devoted to the elaboration of scientific foundations for the prognosis of deposits of minerals in the domain of tectonomagmatic activization, contributed in recent years to a discovery of new, large deposits of nonferrous and rare minerals. The State prize was also conferred upon a group of authors (M. P. Volarovich, and others) for a complex investigation of the piezoelectric effect of rocks, and its use in the form of a new method of search for mineral deposits.

USSR

ARZHANIKOV, N. S., Sovetskaya Rossiya, 8 Nov 73, p 3

A fruitful cooperation of Soviet and Cuban scientists, headed by I. P. Gerasimov and Nunez-Jimenez Antonio, resulted in the produotion of a national Atlas of Cuba.

In biology a prize was awarded to Belorussian soientist D. M. Golub for a series of studies on the nervous system.

A prize was bestowed upon Academician A. P. Okladnikov and Corresponding Member of the Academy of Sciences USSR V. I. Shunkov for the "History of Siberia," from the most ancient archeologioal cultures up to the present time.

Many works awarded state prizes demonstrate the fruitfulness of cooperation between science and practice. One such study of enormous importance to the national eoonomy is the creation of a highly effective prophylactio preparation, TF-130 (vaccine), against herpes tonsurans of cattle, and the development by a group of Uzbek seleotionists of new, disease-resistant cotton varieties.

In medicine the State Prize USSR was awarded to Prof V. I. Burakovskiy and his colleagues for a study of clinical aspects and diagnosis of heart defects in very

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USSR

ARZHANIKOV, N. S., Sovetskaya Rossiya, 8 Nov 73, p 3

young children and for elaborating new methods of surgical treatment. A notable contribution to public health was made by a group of speoialists (I. I. Zhilevich, and others) with a new original method, electroroentgenography, based on the use of semiconductive properties of selenium lamellae, for obtaining X-ray pictures on ordinary writing paper.

Achievements in many branches of the Soviet industry, including coal mining and construction, for which awards of prizes were made are also described.

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## VI. OBITUARIES OF SOVIET SCIENTISTS

USSR

"I. Kh. Andreyev"

Moscow, Meditsinskaya Gazeta, 21 Nov 73, p 4

Abstract: Ivan Khristoforovich Andreyev, Candidate of Medical Sciences, Honored Physician RSFSR, CPSU member since 1942, and chief of the Administration of Cadres of the Ministry of Health RSFSR, has died. His obituary is signed by the Ministry of Health USSR, the Ministry of Health RSFSR, and the Central Committee of the Medical Workers' Trade Union.

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USSR UDC 616.12(092) Burgsdorf

"M. V. Burgsdorf"

Moscow, Kardiologiya, No 4, 1973, pp 156-157

Abstract: Prof Mikhail Veniaminovich Burgsdorf, former associate of the Chelyabinsk Medical Institute and Soviet cardiologist, died on 31 August 1972.

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USSR

"A. P. Chernikova"

Moscow, Meditsinskaya Gazeta, 21 Nov 73, p 4

Abstract: The death of Antonina Pavlovna Chernikova, senior associate of the Moscow Institute of Pediatrics and Child Surgery, Doctor of Medical Sciences, and CPSU member since 1919, was announced by the Ministry of Health RSFSR, the Boards of the All-Union and All-Russian Societies of Childrens' Physicians, the editorial staff of the journal "Pediatriya," and the Moscow Institute of Pediatrics and Child Surgery.

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USSR

"M. I. Kolomiychenko"

Moscow, Meditsinskaya Gazeta, 8 Jun 73, p 4

Abstract: Prof Mikhail Isidorovich Kolomiychenko, head of a chair of the Kiev Medical Institute, CPSU member, Honored Scientist Ukrainian SSR, and author of over 150 scientific works, has died. His obituary is signed by the Ministry of Health USSR and the Ministry of Health Ukrainian SSR.

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USSR UDC 616-089(092 Levin)

"G. S. Levin"

Minsk, Zdravookhraneniye Belorussii, No 12, 1973, p 76

Abstract: Grigoriy Semenovich Levin, Honored Physician Belorussian SSR, Candidate of Medical Sciences, and scientific secretary of the Belorussian Institute of Tuberculosis, died on 17 June 1973 at the age of 73.

1/1

USSR

"V. M. Linchenko"

Moscow, Meditsinskaya Gazeta, 4 Jul 73, p 4

Abstract: Valeriya Mitrofanovna Linchenko, Candidate of Medical Sciences, Honored Physician RSFSR, and deputy chief physician of the First Polyclinic of the Fourth Main Administration under the Ministry of Health USSR, has died.

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USSR UDC 616.89(092)Mnukhin

"S. S. Mnukhin"

Moscow, Zhurnal Nevropatologii i Psikhiatrii imeni S. S. Korskova, Vol 73, No 5, 1973, pp 794-795

Abstract: Prof Samuil Semenovich Mnukhin, Soviet psychiatrist, Doctor of Medical Sciences, and head of the Chair of Psychiatry of the Leningrad Pediatric Medical Institute until his retirement in 1970, died at the age of 70 on 21 October 1972.

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USSR

"M. M. Muzik"

Kiev, Mikrobiologichnyy Zhurnal, No 2, 1973, p 269

Abstract: Maksim Maksimovich Muzik, docent and head of the Chair of Microbiology of the L'vov State Medical Institute, died on 24 May 1972.

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USSR

"Yu. Ye. Nebolyubov"

Frunze, Sovetskaya Kirgiziya, 4 Dec 73, p 3

Abstract: Prof Yuriy Yevgen'yevich Nebolyubov, Academician of the Kirgiz Academy of Sciences, chief scientific secretary of the Presidium of the Kirgiz Academy of Sciences, director of the Institute of Automation, Doctor of Technical Sciences, and CPSU member, died on 2 December 1973. His obituary is signed by T.U. Usubaliyev, T. K. Kulatov, A. S. Suyumbayev, N. N. Tartyshev, K. N. Kulmatov, P. Ye. Vakulov, P. I. Naumov, P. M. Khodos, S. I. Ibraimov, D. A. Asankulov, S. B. Begmatova, N. G. Minich, K. K. Karakeyev, A. K. Karypkulov, K. M. Moldobayev, A. K. Kanimetov, A. K. Kozhomkulov, N. I. Zakhar'yev, B. D. Dzhamgerchinov, V. M. Zhuravlev, M. M. Adyshev, S. I. Il'yasov, K. R. Ryskulova, M. Ya. Leonov, V. M. Popov, O. D. Alimov, M. N. Bol'shakov, P. G. Grigorenko, M. I. Imanaliyev, F. T. Kashirin, G. A. Sukhomlinov, A. O. Oruzbayev, A. N. Volkov, and D. M. Mamytov.

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USSR

"A. I. Plishko"

Moscow, Zhivotnovodstvo, No 8, 1973, p 94

Abstract: Andrey Illarionovich Plishko, Honored Zootechnician Ukrainian SSR and deputy chief of the Main Administration of Animal Husbandry and Poultry Framing of the Ministry of Agriculture Ukrainian SSR, died on 21 June 1973.

1/1

USSR UDC 616.5(092) Popov

"I. S. Popov"

Moscow, Vestnik Dermatologii i Venerologii, No 10, 1973, p 92

Abstract: I. S. Popov, Doctor of Medical Sciences, professor, noted dermatologist and mycologist, and former associate of the Khar'kov Medical Institute, died on 6 December 1972.

1/1

USSR UDC 616.3(092) Yezhkin

"N. N. Yezhkin"

Moscow, Stomatologiya, No 5, 1973, p 105

Abstract: Nikolay Nikolayevich Yezhkin, chief of the Stomatological Division of a sanatorium of the Ministry of Defense, honorary chairman of the Scientific Stomatological Society on Caucasian Mineral Waters, member of the Board of the All-Russian Society of Stomatologists, Col Med Serv (ret.), and CPSU member, died in 1972.

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## VII. FOREIGN SCIENTIFIC COOPERATION

USSR

"Egyptian Physicians Visit Soviet Union"

Moscow, Meditsinskaya Gazeta, 4 Jul 73, p 4

Translation: By invitation of the Central Committee of the Medical Workers' Trade Union, a delegation of the Trade Union (Syndicate) of Egyptian Physicians visited the Soviet Union. The delegation included members of the Central Council of the Trade Union -- Doctor Dokha Goneym, professor of the Institute of Cardiac Surgery Hamdi el-Sayed and director of the Institute of Poliomyelitis, and Director of the Provincial Hospital Doctor Said Mekkaui.

In the Central Committee of the Trade Union the Egyptian guests were welcomed by Chairman of the Central Committee N. N. Grigor'yeva, who explained the system of Soviet public health and the role and tasks of the Medical Workers' Trade Union in improving the quality of medical aid to the working masses. The delegates from Egypt had visited therapeutic-prophylactic institutions of Moscow, Leningrad and Baku.



USSR

Meditsinskaya Gazeta, 4 Jul 73, p 4

In his parting words at the Central Committee of the Trade Union the head of the delegation, Prof Hamdi el-Sayed, gave a high appraisal of the organization of the health service for the population of the Soviet Union and the work of trade-union organizations.

USSR

VORONOV, Yu.

"Days of Soviet Science and Technology"

Moscow, Pravda, 11 Nov 73, p 1

Translation: Everyday tens of thousands of workers and engineers, students and schoolboys of the German Democratic Republic visit the huge exhibition room of Werner-Seelenbinderhalle in Berlin, where there is a Soviet exhibition known as "Progress in Science and Technology -- the Main Factor in Creating a Material-Technical Base for Communism". Here, among 3,000 display items, a model of an automatic laboratory, "Lunokhod-2," the newest products of the electric-power and automobile industries, electronic equipment, and the most recent items put out by the Soviet machine-tool building and precision instrument industries are demonstrated. East German innovators and specialists attending the exhibition exchange experience directly with their Soviet colleagues. Of great interest to visitors are the numerous exhibits on successful cooperation between East German and Soviet industrial and research workers and also other countries of the Socialist camp. "The exhibition presents an unforgettable impression," "Here one can become intimately familiar with the enormous successes of the Soviet Union in all fields. Anyone visiting the exhibition acquires valuable knowledge and experience which will help him in his own work" -- such are the notes one can read in the visitors' book.
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USSR

VORONOV, Yu., Pravda, 11 Nov 73, p 1

Of enormous interest was the recent three-day scientific-technical conference in Berlin on "The Role of Science and Technology in Implementing the Decisions of the 24th CPSU Congress" in which some 1,000 German specialists participated. In the plenary and regular sessions, various Soviet scientists and innovators presented their ideas. A group of experts from both countries held a discussion on the problem of the socialist division of labor at the Central Institute for Socialist Control of the Economy under the Central Committee of the Communist Party of Germany.

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USSR

Armenpress [Armenian News Agency]

"Cooperation Between Armenian and Hungarian Scientists"

Yerevan, Kommunist, 9 Oct 73, p 2

Translation: A Protocol on Scientific Cooperation between the Academy of Sciences Armenian SSR and the Hungarian Academy of Sciences for 1974-1975 was signed in Yerevan on 7 October 1973.

At the signing ceremony President of the Academy of Sciences Armenian SSR Academician V. A. Ambartsumyan stated that scientific relations between the two countries are expanding year by year, and that their joint efforts will undoubtedly make a great contribution to the development of science and economy in Armenia and Hungary.

Chief of the Hungarian Delegation, President of the State Geological Administration, Corresponding Member of the Hungarian Academy of Sciences, Iozhef Fyulep, noted that the program of research is of considerable interest. It will yield great results and will contribute a new page to the annals of the development of science in socialist countries.



USSR

Armenpress, Kommunist, 9 Oct 73, p 2

Institutes of Armenia and Hungary will conduct a joint research on flare and ultra-new stars, the theory of analytical functions and functional analysis, the development of computer technology equipment, new automated control systems, quantum optics, solids, earth sciences, physiology, neurophysiology, and higher nervous activity.

There is a plan to compile data on historical and cultural relations between the Hungarian and Armenian nations by the institutes of history, literature, and art of Hungary and Armenia.

An exchange of scientists, graduate students, and scientific publications is also intended.

USSR

"USSR - Mongolian Agreement"

Moscow, Meditsinskaya Gazeta, 4 Jul 73, p 4

Translation: The Plan for Cooperation Between the Ministries of Health USSR and the Mongolian People's Republic in Public Health and Medical Science for 1973-1975 was signed recently in Moscow. The Plan indicates further development of cooperation and exchange of experience in the problems of social hygiene and organization of public health, the training and improvement of medical cadres, sanitary epidemillogical service, cardiovascular pathology and rheumatology, protection of motherhood and childhood, and other important problems relative to public health of the population of both countries. The continuation is also planned of the exchange of specialists for carrying out scientific research work, exchange of information data, etc.

For the Ministry of Health USSR the Plan was signed by Minister B. V. Petrovskiy and for the Ministry of Health of the Mongolian People's Republic by Minister D. Nyam-Osor.

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USSR

"Soviet-Mongolian Meeting"

Moscow, Pravda, 16 Nov 73, p 5

Excerpt: On 15 November 1973 a delegation headed by I. T. Novikov, deputy chairman of the Council of Ministers USSR and chairman of the Soviet part of the Intergovernmental Soviet-Mongolian Commission for Economic and Scientific-Technical Cooperation, left for Ulan-Bator to take part in the tenth session of the Commission....

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USSR

TASS

"Soviet-Polish Cooperation"

Moscow, Izvestiya, 12 Jan 74, p 3

Translation: The 15th session of the Intergovernmental Soviet-Polish Commission on Economic and Scientific-Technical Cooperation, held in Moscow, ended on 10 January 1974.

During this session an exchange of views took place on the tasks of the Commission to realize measures outlined at the December [1973] meeting of leaders of the CPSU and the Polish United Workers' Party on the expansion of Soviet-Polish economic and scientific-technical cooperation and the putting into effect of the Complex Program of Socialist Economic Integration.

The delegation leaders -- Deputy Chairman of the Council of Ministers USSR M. A. Lesechko and Deputy Chairman of the Council of Ministers of the Polish People's Republic M. Yagielski -- signed the Protocol of the session, which was held in the spirit of friendship and complete mutual understanding.

On the same day the Polish delegation left for home.

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USSR

ANDRUSHAYTIS, G. P., director of the Institute of Biology, Latvian Academy of Soiences, interviewed by ILICHEVA, S.

"Soviet, Swedish Scientists Discuss Baltic Pollution"

Riga, Sovetskaya Latviya, 15 Sep 73, p 2

Translation: The second Soviet-Swedish symposium on protecting the Baltic Sea from polution opens in Riga on 17 September. Our correspondent S. Ilicheva asked G. P. Andrushaytis to answer a number of questions connected with the ecological and social problems of protecting the water of the Baltic and to describe the significance of the forthcoming symposium.

Question: Why is the problem of protecting the Baltic Sea so acute?

Answer: This sea is an internal reservoir of the European continent. Some fifty large ports and major populated centers are situated on its shores. Pollution of the Baltic and the rivers flowing into it is primarily connected with the intensification of industrial production and agriculture and the increased effect of man on nature.

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USSR

ANDRUSHAYTIS, G. P., Sovetskaya Latviya, 15 Sep 73, p 2

The effectiveness of biological processes in water is determined to a considerable extent by the amount of oxygen dissolved in it. Scientists are alarmed at the decrease of it in the very deep strata of the Baltic and at the prevalence in individual zones of hydrogen sulphide which is fatal to fish and other marine life. This is to be explained first by the effect of the anthropogenic factor -- the activity of people -- and second the accumulation of biogenic substances, which is commonly described as "water being moldy."

The hydrological regime of the Baltic is determined by the prevailing winds, the flow of fresh water brought by rivers, and the exchange of water with the North Sea through the Danish Straits of the Storre Baelt and the Lille Baelt and Ore Sund. There is a bistratification of current in the Baltic; the denser waters of the North Sea form the lower current and the waters of the Baltic form the upper current toward the North Sea. The upper layers are fresher and warmer. When salty water comes in from the North Sea, it forces the very deep salty layers upward and thus the oxygen content of the Baltic is maintained. There is an opinion that this water exchange has declined in recent years and that the Baltic has become considerably poorer in oxygen.

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USSR

ANDRUSHAYTIS, G. P., Sovetskaya Latviya, 15 Sep 73, p 2

Salinity is intensifying in the central part of the sea, for example, whereas in 1900 it was 9.5 parts per thousand in the upper strata, in 1970 it was more than 10.5. The phosphorus content is also increasing from 1 gram per liter of water to 4 grams. There are high concentrations of lead, mercury, oil, pesticides (particularly DDT), and other toxic compounds in the waters of the Baltic.

Question: Nevertheless, there have recently been reports of measures to liquidate the undesirable consequences of scientific-technical progress and instances of a considerate attitude toward nature and particularly water. Can anything be said in this respect about the Baltic Sea?

Answer: The struggle to conserve our environment has become a task which goes beyond national boundaries. As far back as 1968 UNESCO held in Paris the first international scientific conference devoted to the resources of the biosphere. Soviet delegates also spoke at it. There have been several regional symposiums and conferences, including one in 1971 -- the first Soviet-Swedish symposium in Stockholm on protecting the Baltic Sea from pollution. Serious study of the entire complex of causes of maritime pollution is necessary, and, of course, combined efforts are necessary by all the

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USSR

ANDRUSHAYTIS, G. P., Sovetskaya Latviya, 15 Sep 73, p 2

countries adjoining the Baltic, particularly in the territorial waters of each interested state. It is essential to collect a great amount of factual material to find ways of solving this serious problem.

The Soviet government was one of the first to adopt a resolution on "Intensifying the Conservation of Nature and Improving the Use of Natural Resources." This document specifies the functions of ministries and departments in the sphere of nature consorvation. It stresses their responsibility for the rational utilization of waters and the protection of reservoirs from pollution and litter, as well as for work in cleaning installations and discharging sewage.

In the Latvian Academy of Soiences' Institute of Biology the assistants of the Hydrobiology Laboratory are conducting a systematic study of the ecology of the Baltic. Last year a Laboratory on the Biology of the Sea was created in the Institute to engage in researoh on the Gulf of Riga, which is of important national economic significance.

There are marine and freshwater microorganisms living in the Gulf which are brought here by the Daugava, Dauya and Liyelupe Rivers. Scientists select such biological

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USSR

ANDRUSHAYTIS, G. P., Sovetskaya Latviya, 15 Sep 73, p 2

indicators, that is, microorganisms from whose reaction and life activity it is possible to determine trends toward pollution. The change in the chemical composition of water is being studied: We are interested in hydrobiological processes -- the development of algae, zooplankton and zoobenthos.

A law "On Nature Conservation" has been adopted in Soviet Latvia and serious attention is paid to building installations to purify the effluent discharged by enterprises into the Gulf and rivers. The Ventspils Petroleum Base, the Bolderaya Wood Processing Combine, and other enterprises have good purification installations.

Question: What will be the representation of foreign scientists at the symposium? What can be said about the program and intended results of the symposium?

Answer: A delegation of ten Swedish scientists is headed by Assistant Professor Khannerts (transliterated), director of the National Committee on Nature Conservation. It is proposed that our guests will deliver ten reports on questions of the hydrological and biological regimes of the Baltic Sea. In my view, we shall be interested to hear speech by Prof Ove Yanson (transliterated) of Stockholm University on modeling the ecological system of the Baltic Sea.

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USSR

ANDRUSHAYTSI, G. P., Sovetskaya Latviya, 15 Sep 73, p 2

It is expected that each country of the Baltic Basin will send two observers to the symposium.

As far as Soviet scientists are concerned, they for their part will also deliver several reports on various aspects of the problem, for example, A. I. Simonov, professor at the Institute of Oceanography of the Main Administration of the USSR Hydrometeorological Service, will familiarize the symposium's participants in detail with the state of the change in the chemical composition of the Baltic Sea. Scientists from Soviet Latvia are also to deliver some reports.

Bilateral research work is a step toward solving the problems of the Baltic Sea. Joint research by Finnish and Soviet scientists in the Gulf of Finland has been going on for a long time now. The second Soviet-Swedish symposium is an undertaking on an international scale. It is possible that it will serve as a major step toward concluding a general treaty between the countries of the Baltic Basin on the conservation of its waters and on multilateral scientific research into all problems connected with violations of the biological equilibrium in this very large reservoir of Europe.

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USSR

"A Yugoslav Delegation Visits Moscow"

Moscow, Izvestiya, 27 Nov 73, p 4

Translation: A Yugoslav delegation headed by K. Bulaich, general director of the Yugoslav Administration on International Cooperation in Science, Education, Culture, and Technology, visited Moscow from 20 to 26 November 1973.

During its visit the delegation engaged in consultations on coordinating the project of an agreement on cultural and scientific cooperation between the USSR and Socialist Federated Republic of Yugoslavia.

The Soviet Delegation in these negotiations was headed by Deputy Minister of Foreign Affairs USSR I. N. Zemskoy.

During the visit K. Bulaich was received by and had talks with Minister of Culture USSR Ye. A. Furtseva, Chairman of the State Committee for Cinematography of the Council of Ministers USSR F. T. Yermash, Vice President of the Academy of Scienoes USSR Academician V. A. Kotel'nikov, and others.

M. Peshich, Ambassador of the Socialist Federated Republic of Yugoslavia to the USSR, participated in these meetings.
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## VIII. NEW ORGANIZATIONS

USSR

TITOV, I., "Pravda" correspondent

"New Building"

Moscow, Pravda, 17 Nov 73, p 6

Translation: The State Commission has put into service a laboratory-production building for the Tambov Affiliate of the All-Union Scientific Research Institute of the Electrification of Agriculture.

The new building will house the principal laboratories, a design department, and other services. An asphalt road connects the scientific center with the production base. Equipment is now being installed and adjusted in the Experimental Shop. Here new models of machines and technological lines for mechanization of stockraising farms and complexes will be created and tested.

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## IX. CONFERENCES

USSR

KRUPIN, V. D.

"Desert and Man"

Moscow, Priroda, No 5, 1973

Translation: On 20 February 1973 the scientific council for the problem "The Study of Man's Environment and Rational Use of the Resources of the Biosphere" of the State Committee for Science and Technology of the Council of Ministers USSR and the Academy of Sciences USSR held a conference on the subject "The Effect of Anthropogenic Factors on Desert Biogeocoenoses and a Rational Use of Deserts." Biogeocoenologists, landscape experts, forest specialists, cartographers, zoologists, and botanists -- representatives of scientific and higher educational institutions in Moscow and Leningrad, the Ministry of Agrioulture and the State Committee of Forestry USSR, and the republic academies of sciences, i.e., the Kazakh, Kirgiz, Tadzhik, Turkmen, and Uzbek republics, took part in the conference. Vice-President of the Academy of Sciences USSR A. P. Vinogradov, in his opening address, discussed man's intensifying intrusion into the natural complexes of the arid zone. Large petroleum, gas, and other mineral deposits





were found in deserts and semideserts, routes for giant pipelines and irrigation channels are being built, and new cotton growing and irrigated farming regions are being created there. The more active man's impact on the desert, the more acute the need for an overall approach during an evaluation of the anthropogenic effect on desert biogeocoenoses.

The speakers N. T. Nechayeva (Institute of Botany of the Academy of Sciences Turkmen SSR), M. P. Petrov (Leningrad State University), A. G. Babayev (Institute of Deserts of the Academy of Sciences Turkmen SSR), Z. Sh. Shamsutdinov (Institute of Karakul Breeding of the Ministry of Agriculture USSR, Samarkand), and D. V. Panfilov (Institute of Geography of the Academy of Sciences USSR), using specific examples, showed how the processes of desert formation (anthropogenic and natural) occur in arid areas and mapped out measures to prevent them. An immediate and careful study of the natural resources in the arid zone is one of the first task in the science of deserts.

The compilation of the inventory of desert phytocoenos[illegible]s been placed on quite a high level. At the same time the struoture and dynamics [illegible]ooceonoses have not been studied sufficiently. "Karta Pastbishch Aridnoy Zony SSSR" [illegible] Map of Pastures in the

USSR

KRUPIN, V. D., Priroda, No 5, 1973

Arid Zone of the USSR) -- a collective work of a number of institutions in Central Asia (the Institute of Deserts of the Academy of Sciences Turkmen SSR is the leading institution) -- serves as a good example of the overall approach to the natural resources of deserts. B. A. Fedorovich (Institute of Geography of the Academy of Sciences USSR), V. S. Zaletayev (Laboratory of Forest Management of the Academy of Sciences USSR), L. Ye. Rodin (Botanical Institute of the Academy of Sciences USSR), and other speakers raised the problem of expanding the newwork of fixed biogeocoenological institutions in the arid zone -- a tested form of an overall study of natural systems which makes it possible to evaluate the tendencies toward and prospects for the development of biogeocoenoses most correctly.

The conference drew attention to the need for improving the coordination of scientific plans and to the improvement in the interaction of the institutions (academic, agricultural, geological, construction, and planning) dealing with the problems of desert development.

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USSR

"Water Crisis"

Moscow, Sovetskaya Rossiya, 29 Oct 73, p 2

Translation: On 29 October 1973 the All-Union Conference on Chemical and Instrumental Methods of Analyzing Natural and Waste Waters was held in Moscow. Its organizers were the Academy of Sciences USSR, the Main Administration of the Hydrometeorological Service of the Council of Ministers USSR, and the Ministry of Reclamation and Water Economy USSR. On the eve of the opening of the Conference our correspondent B. L'yanov met with M. M. Sinyavin, head of a laboratory of the Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy and chairman of the Organizational Committee of the Conference, and asked him to answer a few questions.

Question: What is the agenda and purpose of the Conference?

Answer: As is well known, on this immense and beautiful planet, which is our Earth, there is more water than land. Nevertheless, the fresh water fit for drinking and industrial purposes is comparatively scarce. Its total reserves are estimated at one-and-a-half billion cubic kilometers, including water of rivers and lakes. And here we are faced with a paradox: on one hand, man is aware of the acute fresh-water deficit; on the other hand, he consciously deprives himself of these already scanty reserves. He cuts, so to say, the branch on which he is sitting.

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USSR

Sovetskaya Rossiya, 29 Oct 73, p 2

What then is the solution to this problem? Should we forbid the pollution of the water of rivers and lakes with industrial effluents? Certainly that would be the ideal way. But our problem cannot be solved by prohibitions alone. Besides, in many cases, such a solution would be equivalent to the elimination of industrial enterprises. We need stringent and reliable control. We also need effective methods and sensitive devices capable of discovering even the most insignificant impurities of harmful substances in water.

A dream of scientists is to have a kind of chemical thermometer which would show the precise concentration of all undesirable components in the water of lakes and rivers. But such a thermometer does not exist although there are instruments that catch the most insignificant concentrations of substances. In particular, they show the presence of even one thousandth fraction of a milligram of mercury in a liter of water! Meanwhile the number of substances for which the Ministry of Health USSR has established maximum permissible concentrations about five hundred.

At present several methods are in use to determine the presence of various mineral impurities, including concentration of definite elements, and the method of chromatographic partition of components, mainly metals, such as copper, nickel, and cobalt. There are also electrochemical, spectral, and other methods of analysis.
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USSR

Sovetskaya Rossiya, 29 Oct 73, p 2

The organic impurities are determined by the instrumental method. We hope this method will form the basis of the state-wide system of water control which is now being organized in the country.

Question: The Conference will discuss not only surface waters but underground ones as well. According to published data, at depths up to 300 meters are embedded four million cubic kilometers of water. Are there plans to put it to use?

Answer: The institutes, laboratories, and expeditions of the Ministry of Geology USSR are very intensely engaged in reconnoitering underground waters. There are many difficulties in that. One has to take up to half-a-million samples every year. There are no rapid methods of analysis, and the geologist on the spot is not always able to determine the water composition. Samples are sent to remote laboratories. As a result we have not analysis of water on the spot but analysis of water in a bottle. This is far from being the same.

Question: Now would you say a few words about seas and oceans.

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USSR

Sovetskaya Rossiya, 29 Oct 73, p 2

Answer: I should say with bitterness that here the picture is much sadder than has been generally assumed. Studies conducted over several consecutive years by expeditions of the State Oceanographic Institute have shown the complete groundlessness of the long-lived viewpoint that oceans and seas can absorb an illimited amount of waste. It was found that vast areas of oceans are highly polluted. In many regions the maximum permissible concentrations of harmful substances have been exceeded for a long time.

Protection of the ocean is an international problem. This question cannot be solved by the efforts of a single state alone. The Soviet Union has taken an important initiative by proposing to work out a global program for the control of world ocean waters and has appealed to all countries to take part in its realization. There is no doubt as to the difficulties of the problem since we are again faced with the absence of proper instruments which could tell us objectively the quality of water at various depths and to determine with a high degree of accuracy the presence of a great number of components.

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USSR

Sovetskaya Rossiya, 29 Oct 73, p 2

Question: The problem of the fight against pollution of water bodies is not new and did not arise suddenly. Has science developed sufficiently reliable methods to prevent disasters, particularly those occurring on the seas?

Answer: I am glad to answer this question since the most effective method of purifying the water surface from spilled petroleum has been worked out precisely in our country. It has been proposed by scientists of the Institute of Oceanology imeni P. P. Shirshov of the Academy of Sciences USSR. By means of the emulsion method, applied in a closed cycle, it is possible not only to localize in good time the dangerous spill-center but also to colleot almost completely the spilled petroleum. In the USSR, three plants had already been built and produce special reagents for clearing away sea mishaps. It is interesting to note that the emulsion method has found its application in agriculture as well. The method was patented in the USA, Japan, West Germany, Holland, and other countries.

Question: The tasks of the Conference apparently include not only examination of effective methods of water control, but also the problem of its purification on an industrial scale. Will there not arise some difficulties in this matter since there will be a need for very great investments?

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USSR

Sovetskaya Rossiya, 29 Oct 73, p 2

Answer: As a matter of fact the investments required will be high. But they will be compensated. In the first place, by building purification installations we not only invest money but we also obtain a return upon it. According to the estimates of experts around the world the effluents carry away with them metals and other valuable raw materials worth about six billion rubles.

In conclusion, I would like to state that I did not quote all the figures that will be dealt with by participants of the Conference, and I have not mentioned all the problems to be discussed. I wish to note in particular that the working out of new and improvement of existing methods of water control should greatly contribute to preserving the purity of our rivers and water bodies. I believe that subjects touched upon in our talk suffice to indicate how many serious problems are facing science and practice and how many urgent questions we have to solve.

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USSR

KULIK-REMEZOVA, V.

"All-Union Symposium on Biological Energetics"

Leningrad, Leningradskaya Pravda, 24 Oct 73, p 1

Translation: The First All-Union Symposium on the State of Biological Energetics in Living Organisms Affected by Irradiation was held on 23 October 1973 at the Leningrad House of Scientists imeni A. M. Gor'kiy.

This contemporary, new problem is being handled chiefly by young scientists, the average age of participants in this Symposium being thirty years.

Chemists, biochemists, biologists, biophysicists, and physicians presented papers on the results of their investigations in which studies on penetrating radiation were summed up. Experimental work performed in many scientific centers of the country indicate that irradiation exerts different action on many physical and physicochemical processes in living organisms. Its action may be either very harmful or quite useful. All depends on the dose of irradiation.

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USSR

KULIK-REMEZOVA, V., Leningradskaya Pravda, 24 Oct 73, p 1

Thus scientists of the Institute of Biochemistry of the Academy of Sciences Uzbek SSR note that under the effect of ionizing irradiation the sugar content and the amount of vitamins in the seeds of many plants increases. These observations open wide prospects. In using them, scientists will be able to use radiation to create organisms with preset properties. For example, by influencing the heredity of plants through the action of radiation, improved strains of cotton have been produced.

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USSR

PUCHKOVSKAYA, N. A., deputy of the Supreme Soviet Ukrainian SSR, director of the Odessa Scientific Research Institute of Eye Diseases and Tissue Therapy imeni V. P. Filatov, Hero of Socialist Labor, Academician of the Academy of Medical Sciences USSR, Honored Scientist Ukrainian SSR, professor, chairman of the Congress, interviewed by "Pravda Ukrainy"

"All-Union Congress of Ophthalmologists"

Kiev, Pravda Ukrainy, 28 Sep 73, p 4

Abstract: The 4th All-Union Congress of Ophthalmologists was held in Kiev in September 1973 and was attended by Soviet scientists and leading ophthalmologists of satellite and other countries. In summing up the results of the Congress, N. A. Puchkovskaya stressed the fruitfulness of cooperation between ophthalmology and modern technology which has provided lasers, ultrasound, cryogenics, and highly sophisticated optics.

A series of reports were delivered by the participants of the Congress and scientific films were shown. The film of Polish scientist Prof T. Krwawicz on applications of cryogenics in ophthalmology was awarded first prize. Hero of Socialist Labor T. I. Yeroshevskiy spoke of the storage of spare tissues for eye operations organized at his chair of the Kiybyshev Medical Institute. Corresponding Member of the Academy of

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USSR

PUCHKOVSKAYA, N. A., Pravda Ukrainy, 28 Sep 73, p 4

Medical Soiences M. M. Krasnov, a pioneer of the application of laser microsurgery for treating glaucoma, made an interesting communication. A considerable contribution was also made by Kiov scientists Prof V. Ye. Shevalev (treatment of retinal dotachment) and Prof T. V. Shlopak (problems of biochemistry in ophthalmology). Minister of Health USSR A. G. Safonov stressed the importance of ophthalmological care of children with special emphasis on prophylaxis. This problem is given particular attention by the Moscow Institute of Eye Diseases imeni Gel'mgol'ts. This Institute has developed an original method for treating amblyopia and a system for controling progressive myopia with the use of Filatov's biostimulators and hygienic measures. The Odessa Institute of Eye Diseases and Tissue Therapy is specialized in keratoplasty and the diagnosis and treatment of glaucoma. It is also engaged in a relatively new field of research, viz, the treatment of eye lesions caused by burns. Here a positive advance was achieved by layer corneal grafting.

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USSR

ARMENPRESS

"Scientific Session of Geologists"

Yerevan, Kommunist, 12 Oct 73, p 4

Translation: The bowels of our Republic are rich in minerals of great importance to the national economy. During the past two years, as a result of reconnaissance work carried out by prospectors of underground resources, new data was obtained on the geology and mineral resources of Shamshadinskiy Rayon. This formed the subject of discussion at a scientific session organized in Shamshadin by the Rayon Committee of the Party, the Division of Earth Sciences of the Academy of Sciences Armenian SSR, the Institute of Geological Sciences, and the "Znaniye" Society,

V. Akopyan, senior scientific associate of the Institute of Geological Sciences, reported on the geological structure of the Armenian SSR.

Academician I. Magak'yan, secretary of the Division of Earth Sciences of the Academy of Sciences Armenian SSR spoke of mineral resources of the Republic, dwelling in particular upon the problems of further development of geological science in

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USSR

ARMENPRESS, Kommunist, 12 Oct 73, p 4

Armenia. Candidate of Geological-Mineralogical Soienoes K. Muradyan, Associate of the Institute, stated that recently experts of the Shamshadin Expedition found in this Rayon the new promising deposits of lead-zinc and copper ores.

B. Arakelyan, Corresponding Member of the Academy of Sciences Armenian SSR and director of the Institute of Aroheology and Ethnography, told session participants about the results of excavations of Artashat, the capital of ancient Armenia.

2/2

USSR

"Symposium on Immunology"

Tashkent, Pravda Vostoka, 2 Oct 73, p 4

Translation: The First Republic Symposium on Immunology in Traumatology, Orthopedics, and Surgery was held for two days in Tashkent. Its participants included not only Uzbek specialists but also prominent scientists of Moscow, Leningrad, Kiev, Riga, and other large scientific centers of the country. Reports and communications dealt with topical questions of immunological research and clinical aspects of immunology.

Participants of the Symposium worked out recommendations for developing immunological service in traumatology and orthopedics.

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USSR

TASS

"Scientific Conference on Cardiovascular Diseases"

Moscow, Sotsialisticheskaya Industriya, 3 Jan 74, p 3

Translation: A two-day scientific and practical conference on problems of the diagnosis and treatment of cardiovascular diseases was held in Uzhgorod with the participation of outstanding specialists from Moscow, Leningrad, Kiev, Rostov-on-Don, Vil'nyus, and other Soviet cities.

"Cardiovascular diseases are the most widespread all over the world," stated N. N. Mukharlyamov, professor at the Institute of Cardiology of the Academy of Medical Sciences USSR. "And although the problems of cardiovascular insufficiency have been intensively studied, especially in recent times, and the arsenal of therapeutic agents is quite effective, the achievements of science in this respect are still rather slow to be introduced into wide clinical use. The conference in Uzhgorod should contribute to their popularization."

Great interest was aroused by reports presented by Kiev scientists from the clinic of N. M. Amosov, relative to new methods of treating congenital defects, and studies by a leading surgeon of the Republic, Corresponding Member of the Academy of Sciences Ukrainian SSR Prof A. A. Shalimov, on surgical treatment of vascular diseases.
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## X. EDUCATION

USSR

YeREMENKO, L. F., pro-rector of the Institute; RAKhAL'SKIY, Yu. Ye., professor; and KAGAN, I. I., professor, Orenburg Medical Institute

"Integrated Education in the Medical Vuzes"

Moscow, Vestnik Vysshey Shkoly, No 8, Aug 73, pp 18-21

Abstract: Progress in any one branch of science contributes to advances in many other branches, some of them apparently quite distant. It is, therefore, necessary for medical students to become acquainted with a great many scientific disciplines. This should not involve fragmented bits of information but an integrated understanding of the relationship of the various sciences.

Prof Kagan is chairman of a commission for the development of integrated interdepartmental programs at Orenburg Institute. The best procedure appears to be a development in the following stages: determination and analysis of interdepartmental links; coordination of the content of instruction between "adjacent" departments; analysis of each educational discipline as a part of the integrated system; coordination and organization of instruction in the framework of a developing level of integration.

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USSR

YeREMENKO, L. F., et al., Vestnik Vysshey Shkoly, No 8, Aug 73, pp 18-21

The first step involves diagramming the relationships of various departments, disciplines, and educational themes. Structural-functional simulation and network graphs are used to analyze these relationships. The analysis resulted in the designation of basic complexes of disciplines: morphological, physical-biochemical, general pathological, social-hygienic, therapeutic and surgical. The first step will be integration within these complexes.

The second step, distribution of areas among "adjacent" departments, is intended to determine the content of an integrated course and eliminate duplication. The work of the first two stages will be the foundation for the development of a logical structure of the discipline in each department. This should clarify the relationship between areas within a discipline and establish the optimum sequence of studies.

The fourth stage, coordinating and organizing instruction, is the most significant. The ultimate result is to be a continuous integration, in which each area is related to those other areas which support it and which it supports.

2/2

USSR

SMIRNOV, K., "Komsomol'skaya Pravda" special correspondent

"Little Academy of Sciences"

Moscow, Komsomol'skaya Pravda, 19 Sep 73, p 2

Abstract: Against the background of the fascinating scenery of Crimean mountains the correspondent of Komsomol'skaya Pravda describes the allurements of the Little Academy of Sciences [MAN] formod spontaneously by Crimean school children ten years ago, and now numbering some 5,000 boys and girls from various high schools of the Crimea. K. Smirnov narrates his discussions with them, ranging from astronomy to cybernetics, in which he is told why and how the students are engaged in rediscovering natural laws governing the physical, biological, and other phenomena. His special attention was attracted by the stands of the Tenth Anniversary Exposition of MAN which models exhibited telescopes, space stations, excavation panoramas, and cybernetic contrivances. Several of these models have been awarded prizes by the Exhibition of Achievements of the National Economy USSR. Incidentally one of the models, that of a "Thinking Duckling," had been demonstrated at an exhibition in the United States.

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## XI. MISCELLANEOUS

USSR

"Information About the Authors"

Kiev, Kibernetika, No 5, 1973, p 152

Translation: Abbakumov, Ivan Sergeyevich - junior scientific associate at the Moscow Institute of Engineering and Physics;

Arkhipova, Tat'yana Tarasovna - aspirant at Kiev State University;

Bazhenov, Leonid Georgiyevich - aspirant at the Mosoow Physicotechnical Institute;

Belyayev, Anatoliy Konstantinovich - chief engineer at the Special Design Bureau (Machine Computation Station) of the Institute of Cybernetics of the Academy of Sciences Ukrainian SSR (IK AN UkrSSR), Kiev;

Beresnev, Vladimir Vladimirovich - aspirant at Kiev State University;

Brodi, Stepan Mikhaylovich - Candidate of Physicomathematical Sciences, senior scientific associate at IK AN UkrSSR, Kiev;

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USSR

Kibernetika, No 5, 1973, p 152

Burdyuk, Tamari Aleksandrovna - aspirant at Dnepropetrovsk State University;

Vizing, Vadim Georgiyevich - Candidate of Physicomathematical Sciences, docent at the Chernigov Affiliate of the Kiev Politechnical Institute;

Volchek, Boris Aronovich - head of a laboratory at the Krivorozh Metallurgical Plant imeni V. I. Lenin;

Vorontsov, Ivan Mikhaylovich - aspirant at the Kazan' Pedagogical Institute;

Gamburd, Petr Refu1'yevich - senior engineer at the Computer Center (VTs) of the Institute of Mathematics of the Moldavian SSR, Kishinev;

Gorelik, Aleksandr Leopol'dovich - Doctor of Technical Sciences, professor at the Moscow Physicotechnical Institute;

Gupal, Anatoliy Mikhaylovich - junior scientific associate at IK AN Ukr SSR, Kiev;

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USSR

Kibernetika, No 5, 1973, p 152

Danil'chenko, Igor' Antonovich - Doctor of Technical Sciences deputy head of a chair at the Institute of Control of the National Economy, Moscow;

Dedkov, Al'bert Ivanovich - engineer at IK AN UkrSSR, Kiev;

Dem'yanov, Vladimir Fedorovich - Candidate in Physicomathematical Sciences, docent at Leningrad State University;

Dzyubenko, Gretkhen Tsolakovna - junior scientific associate at IK AN UkrSSR, Kiev;

Yermol'yev, Yuriy Mikhaylovich - Doctor of Physicomathematical Sciences, division chief at IK AN UkrSSR, Kiev;

Zhuk, Konstantin Danilovich - Candidate of Technical Sciences, laboratory head at IK AN UkrSSR, Kiev;

Zaytman, Anatoliy Arkad'yevich - aspirant Scientific Research Institute (NII) of Automated Systems of Planning and Control in Construction, Kiev;

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USSR

Kibernetika, No 5, 1973, p 152

Ivanilov, Yuriy Pavlovich - Candidate of Physicomathematical Sciences, deputy director of the Main NII VTs of the Executive Committee of the Moscow City Council of Workers' Deputies;

Ivanov, Viktor Andreyevich - Candidate of Physicomathematical Sciences, docent at the Moscow Institute of Electronic Machine-Building;

Kovalenko, Igor' Nikolayevich - corresponding member of the Ukrainian Academy of Sciences, division head at IK AN UkrSSR, Kiev;

Levin, Grigoriy Leonidovich - laboratory chief at the Krivorozh Metallurgical Plant imeni V. I. Lenin;

Linnik, Ivan Yur'yevich - junior scientific associate at the VTs, Leningrad State University;

Lyubentsov, Vladimir Mikhaylovich - senior instructor at the Moscow Institute of Engineering and Physics;

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USSR

Kibernetika, No 5, 1973, p 152

Malashenko, Yuriy Yevgen'yevich - aspirant at the Moscow Physicotechnical Institute;

Nurminskiy, Yevgeniy Alekseyevich - aspirant at the Moscow Physicotechnical Institute;

Osetinskiy, Nikolay Iosifovich - engineer, Moscow;

Pogorelov, Boris Aleksandrovich - Candidate of Physicomathematical Sciences, Moscow;

Pogosyan, Igor' Abramovich - Candidate of Technical Sciences, senior scientific associate at IK AN UkrSSR, Kiev;

Podval'nyy, Lev Davidovich - Candidate of Technical Sciences, senior scientific associate at the Kalinin Politechnical Institute;

Pshenichnyy, Boris Nikolayevich - Doctor of Physicomathematical Sciences, division head at IK AN UkrSSR, Kiev;

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USSR

Kibernetika, No 5, 1973, p 152

Rvachev, Vladimir Logvinovich - corresponding member of the Ukrainian Academy of Sciences, division head at the Institute of Problems of Machine Building of the AN Ukr SSR, Khar'kov;

Revenko, Valeriy Luk'yanovich - junior scientific associate at IK AN UkrSSR, Kiev;

Safronenko, Vadim Aleksandrovich - senior scientific associate at the Institute of Economics of the Belorussian Academy of Sciences, Minsk;

Sergiyenko, Ivan Vasil'yevich - Doctor of Physicomathematical Sciences, division chief at IK AN UkrSSR, Kiev;

Slesarenko, Anatoliy Pavlovich - Candidate of Physicomathematical Sciences, senior scientific associate at the Khar'kov State Scientific Research Institute of Meteorology;

Solyanik, Anatoliy Ivanovich - senior scientific associate at the VTs, Gosplan UkrSSR, Kiev;

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USSR

Kibernetika, No 5, 1973, p 152

Shpak, Valentin Dorofeyevich - junior scientific associate at IK AN U. v;

Shukur'yan, Stepan Ivanovich - engineer, Kalinin;

Shcherbak, Anatoliy Fedorovich - laboratory head at Krivorozh Metallurgical Plant imeni V. I. Lenin;

Yastremskiy, Aleksandr Ivanovich - student at Kiev State University.

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## XII. ORGANIZATIONAL BRIEFS

USSR

"All-Union Scientific Research Institute of Obstetrics and Gynecology, Ministry of Health USSR"

Moscow, Meditsinskaya Gazeta, 15 Aug 73, p 3

Translation: The news of the birth of the 250,000,000-th citizen of the Soviet Union has been received with special pride and joy by those who stand directly at the source of life, viz., obstetricians, gynecologists, physicians, and scientists. Photo-correspondent V. Popkov visited the All-Union Scientific Research Institute of Obstetrics and Gynecology of the Ministry of Health USSR, the leading institution in this field in our country. A thorough elaboration of a number of problems, in particular that of prenatal protection of the fetus, was responsible for its wide international fame.

The results of scientific studies of the collectives of the Institute are being widely introduced into practice at obstetric and gynecological institutions of the Soviet Union.

This photograph was taken in the Room of Functional Diagnosis of the Institute. Here are investigated the functions of the cardiovascular system and respiration of

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USSR

Meditsinskaya Gazeta, 15 Aug 73, p 3

women during pregnancy, labor, and postpartum period are studied and the newest devices permit monitoring of the fetal cardiac activity.

In the photograph: Al'bert Aleksandrovich Arestov, physician of the Room of Functional Diagnosis, and Candidate of Medical Sciences Vladimir Nikolayevich Demidov, head of the Room of Functional Diagnosis, are analyzing electrocardiograms of a pregnant woman with a heart defect.

2/2

USSR

CHUBKOVA, A., leader of the Laboratory of Entomology, Doctor of Biological Sciences, professor, and AVETISYAN, V., leader of the Laboratory of Viral Infections, Candidate of Medical Sciences.

"Armenian Institute of Epidemiology, Virology, and Medical Parasitology imeni A. Aleksandrov"

Yerevan, Kommunist, 25 Sep 73, p 4

Abstract: The Institute of Epidemiology, Virology, and Medical Parasitology imeni A. Alaksandrov is a result of the merger of the Institute of Malaria and Medical Parasitology and the Institute of Epidemiology, Microbiology, and Hygiene. The Institute has to its credit many achievements. In 1953 tropical malaria was completely eradicated in the Republic, and since 1963 a local malaria as well. Scientific associates of the Institute have accomplished valuable research in etiology, epidemiology, immunology, laboratory diagnosis and prophylaxis of typhoid fever, dysentery, colibacillary eneteritis, paratyphoid fevers, salmonellosis, bruoelliosis, typhus, rickettsiosis, staphylococcal infections, influenza, diphtheria, pertussis, and other infections. The work of hygiene laboratories contributed to the eradication in the Republic of smallpox, polio,

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USSR

CHUBKOVA, A., et al., Kommunist, 25 Sep 73, p 4

diphtheria, parasitogenic typhoids, and a sharp decrease in the incidence of other diseases. The Institute published numerous articles in Soviet and foreign scientific journals, including 11 volumes of research and 5 monographs. Twenty associates of the Institute obtained doctor's degrees and 52, candidate's degrees.

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USSR

"Dushanbe Scientific Institute of Epidemiology and Hygiene"

Moscow, Meditsinskaya Gazeta, 8 Jun 73, p 3

P. Khashimova -- senior scientific associate

P. Kutuzova -- laboratory worker

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USSR

"Estonian Scientific Research Institute of Farming and Melioration"

Moscow, Izvestiya, 10 Jan 74, p 2

Translation: The collective of the Republic Zonal Agrochemical Laboratory at the Estonian Scientific Research Institute of Farming and Milioration determines the fertilizer needs of soils. Processing the results of research is carried out by the electronic computer "Minsk-22."

In the photograph: V. Kerdmen and U. Yarvan, associates of the Laboratory, performing research.

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USSR

"Institute of Nutrition, USSR Academy of Medical Sciences"

Moscow, Meditsinskaya Gazeta, 4 Jul 73, p 3

I. Raskina -- senior scientific associate

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USSR

"Khar'kov Medical Institute"

Moscow, Meditsinskaya Gazeta, 8 Jun 73, p 3

Prof V. Grishchenko -- head of the Chair of Obstetrics and Gynecology

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USSR

"Kuybyshev Medical Institute"

Moscow, Meditsinskaya Gazeta, 19 Oct 73, p 3

I. Soldatov -- Corresponding Member of the USSR Academy of Medical Sciences, head of the Chair of Otorhinolaryngology

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USSR

"Moscow Scientific Research Institute of Hygiene imeni F. F. Erisman"

Moscow, Pravda, 26 Nov 73, p 2

Translation: Scientists of the Moscow Scientific Research Institute of Hygiene imeni F. F. Erisman are investigating the sources of noise in Moscow and the ways of propagation depending on different types of planning and housing systems in the microzones. Associates of the laboratory headed by Candidate of Medical Sciences I. L. Karagodina have compiled a noise map of Moscow. It will be taken into consideration in the further elaboration of the General Plan of City Development.

In the photograph: Senior engineer of the Laboratory I. Seliverstova (on the right) and laboratory assistant S. Tsaparov are performing physical measurements of the noise.

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USSR

STEFANOVICH, correspondent of "Pravda"

"Riga Polytechnical Institute"

Moscow, Pravda, 14 Jan 74, p 1

Translation: Scientists of the Riga Polytechnical Institute have worked out a communication system which makes it possible to transmit electrocardiograms through telephone channels.

With the use of a special apparatus the biological currents of the heart, received by an ordinary electrocardiograph, are converted into audio-frequency electric signals. This permits their telephonic translation. Thanks to a special device which eliminates telephone noises the recordings can be made on a paper tape without distortions. The operation of the system does not require any special training and can be carried out by secondary medical personnel. The new device has already been installed in the Room of Functional Diagnosis of the Yurmala Cardiological Center. At present the highly skilled specialists of the Center can, if need be, diagnosticate in absentia and give proper advice.

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USSR

"Scientific Research Institute of Water Transport Hygiene"

Moscow, Meditsinskaya Gazeta, 19 Oct 73, p 4

P. Prosetskiy -- senior scientific associate, Candidate of Medical Sciences

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USSR

"Volgograd Medical Institute"

Moscow, Meditsinskaya Gazeta, 19 Oct 73, p 3

Prof Yu. Galayev -- prorector for scientific work

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## XIII. EAST EUROPE

EAST GERMANY

FRANZ, H., medical graduate, and JUHNKE, H. -J., Lieutenant-Colonel, Medical Counsellor, M.D.

"Medical Facilities for a Motorized Artillery Unit in Defensive Position"

East Berlin, Zeitschrift fuer Militaermedizin, Vol 13, No 6, 1972, pp 353-355

Abstract: In training members of the medical service of the People's Armed Forces, a training course was instituted during the 1971-2 academic year. The realistic exercise involved the construction of special bunker systems to serve as first-aid stations for the members of an artillery unit who were in a defensive position in the area. The exercise provided answers to the following questions: What is the best organization of a medical operation in company headquarters? How is a batallion first-aid station organized and what are its tasks? How is the first-aid station organized at the troop level and what are its needs? What is the best way to set up a first-aid station throughout the entire unit, specifically when it is in the defensive mode? The various sites and operations were discussed and the method used for training medical-service personnel in their establishment and ope ation were outlined. Four drawings for the various medical and first-aid sites were shown.

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EAST GERMANY

GOERTTLER, V., Jena

"H. Moehlmann"

Jena, Monatshefte fuer Veterinaermedizin, Vol 28, No 6, 15 Mar 73, p 238

Translation: Hubert Moehlmann was born on 30 March 1913 as the seventh of ten children of the peasant Theodor Moehlmann in Notrup, Kreis Bersenbrueck. He completed his secondary-school education in Quakenbrueck Real Gymnasium in 1932; then he studied at the College of Veterinary Medicine in Hannover until 1936. He practised veterinary medicine at the slaughterhouse in Bielefeld and became veterinarian there in March 1937. On 5 October 1939 he was promoted and transferred to Hannover and on 7 December 1940 he passed the examination to become a licensed veterinarian in Berlin.

Between 1937 and 1939 Moehlmann was assistant and deputy veterinarian in the manufacture of reconvalescent serum for foot-and-mouth disease and the evaluation of this vaccine on an adsorbate basis in Insel Riems. While there he compiled the immunity breakthrough observed occasionally and used his findings to prepare his dissertation. During his work he developed close relationships to the Foot-and-Mouth Disease Research

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EAST GERMANY

GOERTTLER, V., Monatshefte fuer Veterinaermedizin, Vol 28, No 6, 15 Mar 73, p 238

Institute in Insel Riems, and he was appointed an assistant there on 1 May 1939. He worked there until 1951, with an interruption between July 1945 and 1948, first as a department head (1942) and from 1944 onward as scientific consultant and professor. In 1948 he was appointed head of the Department of Immunotherapy at the Research Institute for Animal Diseases at Insel Riems. Together with Traub, Moehlmann was instrumental in developing the complement-binding reaction for rapid differentiation of foot-and-mouth disease virus types and was thereafter involved in further developing the method of manufacturing a vaccine against this disease, and the dissemination of the vaccine to protect the entire cattle stock of the German Democratic Republic. It was here that Moehlmann established a worthy reputation; the method became universally used in almost all countries of Europe. In his doctoral dissertation Moehlmann gave a comprehensive review of the development of active immunity and of the significance of the types of foot-and-mouth disease virus. Although the main emphasis of Moehlmann's work was in foot-and-mouth disease, he also contributed significantly to research in the epizootology of infectious diseases of horses.

In recognition of his scientific achievements, Moehlmann was appointed head and later (1954) director of Dessau Serum Works, State Enterprise in October 1953. His

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EAST GERMANY

GOERTTLER, V., Monatshefte fuer Veterinaermedizin, Vol 28, No 6, 15 Mar 73, p 238

task was to develop the facility into a research institute for vaccination materials. Prof Moehlmann accomplished this task in an outstanding manner, both in scientific and organizatorial terms. Moehlmann always worked with an eye toward the future; he knew that developing agriculture results in a concentration of the animal stock, requiring new vaccination techniques. Thus he altered manufacturing and testing methods for the vaccines. His work and the work of his associates was always aimed toward rapid utilization of the research results into practice.

It is not surprising, in the view of these accomplishments, that Prof Moehlmann was given many honors and ever-increasing responsibilities in higher circles. These tasks sometimes jeopardized his health and capacity to work. Moehlmann was awarded as a member of the collective headed by President Roehrer the National Prize, Class I on 7 October 1951. In 1969 he and the Dessau collective headed by him was awarded the National Prize, Class II. In 1961 he was awarded the Hufeland Medal in gold, and in 1964 the title Senior Veterinary Counsellor. In 1970 he became a member of the Leopoldina Association of Natural Scientists in Halle.

Additionally, Moehlmann is a member of the Scientific Advisory Body of the Ministry of Agriculture, Forestry, and Foods, dealing with the fight against cattle tuberculosis and brucellosis; the Central Working Committee for Research and Engineering of Serums,

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EAST GERMANY

GOERTTLER, V., Monatshefte fuer Veterinaermedizin, Vol 28, No 6, 15 Mar 73, p 238

Vaccines, and Organ Preparations; and the Research Council of the German Democratic Republic, where he is the head of the research cooperative on stimulant-initiated diseases. Until the reorganization of the Academy of Agricultural Sciences, Moehlmann was a member of the Section of Veterinary Medicine and head of the working group dealing with the fight against animal diseases within this section. He heads the product group dealing with serums and vaccines.

Hubert Moehlmann has accomplished much in his life so far; nothing fell in his lap, but he devoted considerable energy and diligence to his work and was supported by first-class assistants whose work he appreciates. As a researcher and director of one of the largest research institutes for vaccines in the German Democratic Republic, he contributed significantly to the strengthening of the state of workers and peasants by ensuring the minimization of losses in the animal stock of our socialist agriculture. His associates, students, and friends wish him further success in his scientific endeavors and the speedy recovery of his health.

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EAST GERMANY

ASSMANN, G., Veterinarian, representing the veterinarians in Kreis Rathenow

"H. Rathsfeld"

Jena, Monatshefte fuer Veterinaermedizin, Vol 28, No 6, 15 Mar 73, pp 238-239

Translation: Dr. Hugo Rathsfeld, district veterinarian of Kreis Rathenow, completed his 60th year on 17 December 1972.

He was born in Berlin to a working-class family. He started his education as a trainee at the Greater Berlin slaughterhouse and studied at the College of Veterinary Medicine in Berlin. He graduated in 1937 and obtained hisdoctorate in veterinary medicine the same year. His professional career started in the Institute of Veterinary Physiology under Prof Krzywanek; later he engaged in other work in Berlin, Rathenow, and Vienna.

In 1945 Dr. Rathsfeld started his own veterinary-medical practice in Parnewitz, Kreis Rathenow and practised under difficult conditions in 21 villages, first traveling by horse-drawn carriage, later by motorcycle. In this period he was in close contact with the veterinary-medical specialists of the Soviet Military Command which operated there at the time. He still likes to recount spisodes from this difficult but rewarding

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EAST GERMANY

ASSMANN, G., Monatshefte fuer Veterinaermedizin, Vol 28, No 6, 15 Mar 73, pp 238-239

period. Many severe damages caused by the war had to be repaired, many severe animal epidemics had to be fought, and the cattle stock had to be increased.

After 1 January 1954 Doctor Rathsfeld became regional veterinarian, a responsible function. In the same year he passed the civil-service examination for veterinarians. By involving intensive politico-ideological and professional efforts, he succeeded in increasing production and reducing animal losses. In the past years he continuously worked toward the establishment of state veterinary practices. The formation of veterinary-medical collective practices was actively supported by Doctor Rathsfeld. His special professional interest was in disease-hygienic prevention in rendering facilities and the utilization of products generated there. Thus, he supported efforts toward introduction of the manufacture of blood flour in the Graeningen rendering facility and the skinning of wild predators, which was instituted here for the first time in the German Democratic Republic in 1967. As the head of a central working group, he submitted a recommendation for a regulation for the supervision of rendering facilities.

In 1963 he visited the Mongolian People's Republic as a member of a working committee and prepared recommendations for processing and utilizing animal carcasses. Numerous

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EAST GERMANY

ASSMANN, G., Monatshefte fuer Veterinaermedizin, Vol 28, No 6, 15 Mar 73, pp 238-239

publications in the local press, in the hunters' journal, and in monthlies describe his experiences of several decades. His accomplishments were recognized by state awards such as the Order of Merit of the German Democratic Republic and his appointment as a Veterinary-Medical Counsellor.

In addition to his professional activities, Doctor Rathsfled always found time to hunt, his hobby. He saw the horse both as a patient and a means for riding, an activity he engaged in for decades. The veterinarians in Kreis Rathenow wish their regional veterinarian many professional successes, personal health, and prosperity.

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EAST GERMANY

"H. Weineck"

Jena, Monatshefte fuer Veterinaermedizin, Vol 28, No 6, 15 Mar 73, p 239

Translation: Hans Weineck, senior veterinary-medical counsellor and doctor, died on 25 March 1972 at the age of 60 after a severe inourable illness.

He was born on 22 September 1911, the son of veterinarian Doctor Kurt Weineck in Koenigsee, Thuringia; he attended secondary school between 1922 and 1931 in Saalfeld. After highschool graduation he studied veterinary medicine, as was his wish, at the Veterinary-Medical College in Hannover. He spent a number of semesters in Vienna and Muenchen during the 1933-34 period; he passed the state examination in February 1936 in Hannover and became Doctor of Veterinary Medicine the same year. He was active for a short period at the Braunschweig slaughterhouse, and then started functioning as a veterinarian specializing in sterility at the Veterinary Office in Jena. He passed the regional examination in Muenchen in 1938. In the same year he started his own veterinary medical practice in Gehren, Kreis Ilmenau. He was always eager to use the latest techniques in his practice. He was one of the first veterinarians to perform foreign-body surgery in stables.

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EAST GERMANY

Monatshefte fuer Veterinaermedizin, Vol 28, No 6, 15 Mar 73, p 239

In 1951 Doctor Weineck became regional veterinarian in Arnstadt, a civil servant of our Republic. He cooperated excellently with the cadres of socialist agriculture and others engaged in veterinary medicine in Kreis Arnstadt. He instituted the tuberculosis and brucellosis program and as a result all animals in this region became free of these diseases by the end of 1970. In recognition of his accomplishments, he was named an activist of socialist work, and was given the title Senior Veterinary-Medical Counsellor in 1962 to reward his achievements in veterminary medicine.

Doctor Weineck always understood how to support the development of socialist agriculture by working as a veterinarian. His positive attitude was reflected in his work in the production leadership of the RLN (K) [abbreviation not explained], and he also contributed to the journal Monatshefte fuer Veterinaermedizin. The collective of veterinarians in Kreis Arnstadt advanced in professional and political terms under the leadership of Doctor Weinech, Senior Veterinary-Medical Counsellor. We shall continue his work. Our sorrow about the passing of Doctor Hans Weineck, Senior Veterinary-Medical Counsellor, is deep since he had an excellent personal relationship with all workers in veterinary medicine and since we respect his unparalleled achievements. We shall always remember him with respect.

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EAST GERMANY

"R. Zips"

Jena, Monatshefte fuer Veterinaermedizin, Vol 28, No 6, 15 Mar 73, p 239

Abstract: Veterinarian Robert Zips died on 13 August 1972. Since 1963 he had been head of the Department of Hygiene in Anklam of the Veterinary-Hygiene Inspection Service of Neubrandenburg.

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HUNGARY

FARADI, Laszlo, Dr.

"Some Current Problems of Public Health Direction and Organization"

Budapest, Nepegeszsegugy, Vol 54, No 3, 1973, pp 131-134

Abstract: On the basis of domestic and foreign reports received at the Ministry of Health, the author discusses the following questions: (1) To what extent should a centralized planning, information, and evaluation system be established and what is the significance of a central data bank or computerized data center in the evaluation and planning of public health activities? (2) If a central national data bank is established, should a special organization be created for it and if so, what should be the relationship between the bank and the national health authorities? Should the bank, if established, deal with routine operations only, or should it also engage in research? (3) Relationships between centralization and decentralization in public health direction, planning and evaluation. (4) Possibilities of establishing various standards and the role for standards in public health direction, planning, and evaluation. (5) Objectives needs of the population, and means for surveying the public health requirements. (6) Significance of local surveys in the public health service.

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HUNGARY

NEMETH, Laszlo, Dr., and BALOG, Janos, Dr., Chair for Public-Health Administration, Institute of Advanced Medical Studies

"Educational Level and Distribution of Public Health Planners"

Budapest, Nepegeszsegugy, Vol 54, No 3, 1973, pp 180-184

Abstract: The public health planners in the Hungarian public health service were surveyed and their distribution according to level of education, age, experience, geographic areas, administrative levels, and function was assessed. The number of specially trained individuals showed significant increase during the last decade, but medical doctors mostly shunned the public health field. Fewer female doctors are functioning in public health than male doctors. The results of the study, presented in tabular form, permit better planning of future public health activities in Hungary.

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HUNGARY

"D. Dubovitz"

Budapest, Nepegeszsegugy, Vol 54, No 3, 1973, p 130

Abstract: Denes Dubovitz, deputy director of the National Hematological and Blood-Transfusion Service, deputy department head at the Institute for Management Sciences at Semmelweis University of Medical Sciences, and member of the Hungarian Communist Party since 1945, has died.

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HUNGARY

STARK, Ervin

"M. Julesz"

Budapest, Orvostudomany, Vol 24, No 1, 4 Oct 73, pp 3-6

Excerpt: The Hungarian medical profession has sustained a great loss. On 18 October 1972 Miklos Julesz, Corresponding Member of the Hungarian Academy of Sciences, professor and Director of the First Clinic for Internal Medicine at the Medical University of Szeged, passed away....

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HUNGARY

KESZTYUS, Lorand

"J. Sos"

Budapest, Orvostudomany, Vol 24, No 1, 4 Oct 73, pp 7-11

Excerpt: His friends, acquaintances, colleagues, and pupils watched with diminishing hope for many months the deterioration of his health, the battle against invidious disease. Instead of plans for the future, the main subject during conversations became the complaints about his well-being, which became more numerous and more ominous. In spite of this, the news of the death of Jozsef Sos, professor of pathophysiology at the Institute of Pathophysiology at Semmelweis University of Medical Sciences, Corresponding member of the Hungarian Academy of Sciences, and an exceptional representative of Hungarian experimental medicine and public health policy, elicited universal consternation....

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POLAND

"W. Turski"

Nauka i Chelovechestvo 1973 (Science and Mankind 1973); Moscow, Znaniye, 1972, 399 pp

Translation: Wladyslaw Turski. (Born 1938). He is a Polish mathematician. He was born in Cracow. In 1960 he graduated from the Mechanical and Mathematical Faculty of Moscow State University in the specialty of celestial mechanics. In 1962 he defended his candidate's dissertation in Warsaw Univeristy and in 1966 his doctoral dissertation in the Mining Academy (Cracow) in automation and mathematical machines. At present W. Turski is the director of the Department of Programming Theory of the Computer Center of the Polish Academy of Sciences. He teaches in the Institute of Mathematical Machines of Warsaw University. He is the author of two books and more than 30 scientific papers on celestial mechanics, automated control, programming languages, etc. As an invited professor he gave lectures in universities in the United States and England. Since 1966 he has been the scientific secretary of the International Working Group for ALGOL and since 1969, a member of the International Working Group for the Methodology of Programming.

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ROMANIA CZ 001.891(498)

NICOLESCU, M., president, Romanian Academy

"New Scope of Romanian Scientific Research"

Bucharest, Progresele Stiintei, Vol 9, No 1, Jan 73, pp 1-2

Excerpts: A survey should be made of the 25 years of heroic efforts made by a people who, after liberation and the termination of the war, knew how to convert weapons into hammers and sickles. For, in order to scrutinize future avenues, the results of the efforts made must be analyzed, the situation in the present stage must be compared with that of the initial stage and with the present situation in other countries, and the various procedures must be compared in order to detect the errors....

Of course the birth (30 December 1947) of the People's Republic (now the Socialist Republic) does not coincide with the emergence of scientific research in Romania.... But only 25 years ago when people's power was established did science begin to play a major role. The government proclaimed science one of the determining factors of socialist construction. From the outset it took all the steps to promote the rapid progress of scientific research. These steps involved reorganizing education at all levels,

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restructuring the Academy, and establishing research institutes in every field. Consequently, it established three institutes of mathematics, six institutes of chemistry, two institutes of physics, and institutes of mechanics, electrical engineering, biology, history, linguistics, economic sciences and others to which were added many institutes attached to economic ministries and research institutes and laboratories attached to major industrial centrals.

While Romania in the prewar period had only 52 scientific research units, in 1965 it had 216 and in 1970, 261. In 1938-39 the budget appropriations for science was 105.9 million lei while in the 1966-1970 period the appropriations for science were 9 billion lei. In the prewar period the scientific research staff numbered 2,000-3,000 persons. In 1965 their number increased to 30,000 and in 1970 to 40,000. The results were not long in coming. Only 8 years later in 1956, at the Congress of Romanian Mathematicians attended by many foreign guests, the young Romanian mathematicians distinguished themselves not only by their high-standard training but also by their outstanding studies in very topical areas. The current Romanian school of mathematics is on a competitive level with schools in foreign countries.

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NICOLESCU, M., Progresele Stiintei, Vol 9, No 1, Jan 73, pp 1-2

Research in physics was seriously affected by the lack of support of prewar governments. During the period in which research in other countries was taking giant strides, in Romania teachers and research workers had poorly appointed laboratories which prevented them from doing their share in enriching the world scientific gains. Only under the new system, when two institutes of physics were established in Bucharest, did genuine scientific research come into being, thanks to the constant support of the government and the researchers' talents and enthusiastic work. Without claiming that a school of physics emerged at the same point, it can be noted with satisfaction that a great many outstanding researchers were rapidly formed in very sophisticated areas of modern physics. Their emergence, high-standard training, dedication, and eagerness to approach the most complicated problems is a sure proof that Romanian physical research has genuine surprises in store for the near future. Many researchers in physics and especially in nuclear physics are involved in joint programs under the major laboratories at Dubna (USSR), CERN (Switzerland), and Trieste (Italy).

Along with the considerable progress of basic research, outstanding efforts have been made in research for development. Industrialization would not have recorded such results had it not been for the rapid training of adequate numbers of experts in many

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specialized areas. The program involved has been promoted by the many institutes of higher technical training established after 1947. The three major units existing at that time in Bucharest, Iasi, and Timisoara were not adequate. Moreover, many research institutes were established both under economic ministries and under industrial centrals. The staffs of engineers who monitor and supervise the various industrial processes has been significantly increased by the appearance of researcher-engineers whose goals might seem limited but whose influence on quality could be considerable....

This brief survey should not lead to the conclusion that one can be satisfied with the level attained and that any further effort would be useless. Constant efforts must be made not to live but to survive. Consequently, scientists must continue to learn and constantly keep abreast to avoid being overtaken. Hence in Romania, just as in all the other countries, the problem of retraining has become a state matter. Adequate steps were taken on a countryside scale. But the Romanian scientific workers did not wait for these steps to be taken. They are fully aware that keeping abreast with all the discoveries is a vital matter for a scientist. Therefore they persevere in their studies and research. Undoubtedly, Romanian research workers will obtain valuable and durable results meeting the hopes which the Romanian government and people have pinned on them. "Today's buds carry tomorrow's fruit."

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ROMANIA CZ 617.7(498)(092) Vancea, P.:061.75

GHINEA, S.

"P. Vancea"

Bucharest, Progresele Stiintei, Vol 9, No 1, Jan 73, pp 47-48

Translation: On 17 October 1972 the Academy of the Romanian Socialist Republic celebrated the 70th birthday of Prof Petre Vancea. The festive session was attended by many personalities. Speakers focused on Vancea's versatility as a scientist, pedagogist, publicist, and educator of the masses. They included President of the Academy of the Romanian Socialist Republic Miron Nicolescu, Deputy Chairman of the Academy Stefan Milcu, senior research worker at the Nicolae Iorga Institute of History Prof Dr Vasile Netea, and Dr Marius Micsa, chief physician and head of the ophthalmology ward of Piatra Neamt Hospital.

The session was held in the auditorium of the Academy. The opening address was made by the president of the Academy who stated: "The session is to mark together with the feted Prof Petre Vancea, the successful passing of a test which was difficult both according to tradition and to the physicians' views. It involved the crossing of

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the invisible but detectable frontier between the first part of life, the one up to the age of 70, and the second part which he would not delimit for fear of underrating it.

"Dante Alighieri, in his vision expressed in the Divine Comedy many centuries ago, set man's life span at 70 years. This is how his commentators explain his first two lines: 'At the middle of our life/ I was in a dark forest.' When he wrote his immortal poem, Dante was 35 and was, as he stated in his verse, at mid-life. This accounts for the 70-year life span which Dante had set for man, a span which he had inferred from his own observations of his fellowmen.

"If Dante's reckoning was reconsidered in light of the fact provided by Prof Vancea that he was at his mid-life, then his life span should be assessed at 140 years. Actually this is the figure now being suggested by many experts. Whatever the truth may be, Prof Vancea has been proving for many years that he is at mid-life, not only by the energy emanating from his whole outstanding activity in the scientific and social areas but also by his indomitable persistence and contagious and youthful enthusiasm, youthful in spite of the safeguarding and clement snowwhiteness. Prof

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Vancea has been a harbinger of the Romanian school of ophthalmology and has everywhere won outstanding praise and awards. For him the age of 70 has not been, as laid down in the law, the point for stopping work and has not caused him to rest because of tiredness. It has rather been an incentive to fight a keen battle with himself and the result thereof has been a victory for Romanian ophthalmology. I do not have the competence to detail and evaluate Prof Vancea's indisputable scientific merits and this will be done by expert colleagues. However, as a representative of all his colleagues at this celebration, I wholeheartedly wish him a long life of further fertile and useful work with equally resounding results."

In his address, academician Stefan Milcu emphasized Prof Vancea's contributions to Romanian ophthalmology and his active involvement in world scientific activity where he has been playing a major role. He said that in medicine Prof Vancea competently and persistently made use of the characteristic period in the history of ophthalmology during the last five decades and acted as a participant and not as a spectator. The same as the other branches of medicine, ophthalmology made good use of the advances made in biology during the second half of the 20th Century. Biochemistry, biophysics, genetics, and the physiology of the ocular exteroceptor were involved in this discipline

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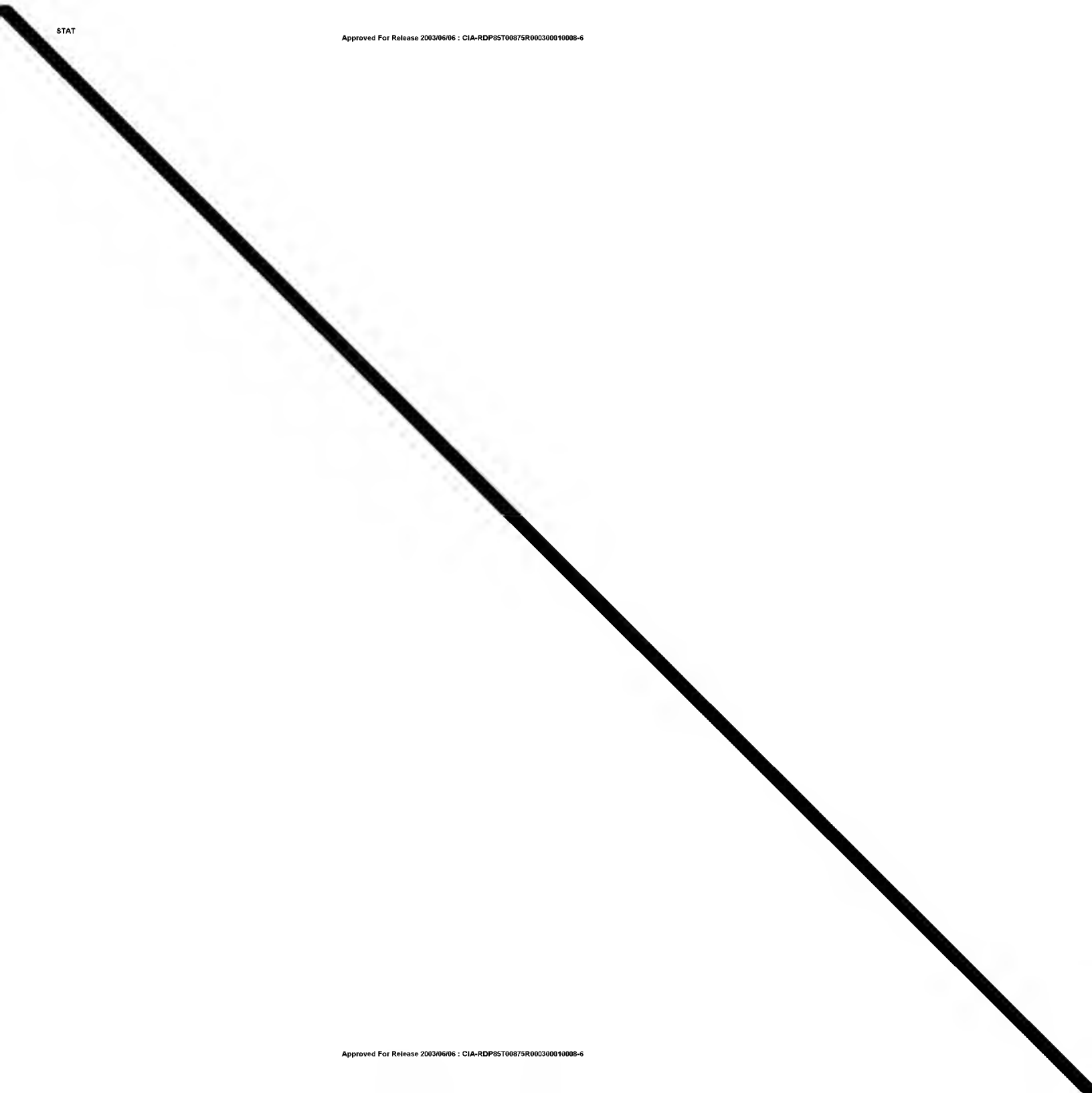

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Conventional morphopathology, cytology, and the histology of the ocular system were provided with new techniques and new interpretations.

Prof Vancea made outstanding efforts, sometimes under unfavorable conditions, to be involved in this progress of ophthalmology. This is proved by his many surveys in the above-mentioned areas. He wrote more than 100 papers on research into the normal and pathological structures of the eye. He used the techniques of modern physiology and biochemistry in his studies. He was involved with the vegetative ocular system in his early scientific work as shown by his doctoral thesis in 1928, his reports to the Paris Society of Biology, and other papers. He was constantly involved in the management of ocular diseases. His report on the Pharmacology and Pharmacodynamics of the Eye published in German is an outstanding survey of his own research in analogy with world literature.

Although his clinical and experimental studies practically embraced the entire area of ophthalmology, he had obvious preferences. One involves the studies on trachoma in which he invalidated the importance of the complement fixation reaction; he demonstrated that viral inclusions (Halberstadter-Prowecheck) are of great importance in



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diagnosing trachoma corpuscle vectors; he studied trachoma experimentally and clinically and the action of the trachoma virus on the oxidase of the Herder gland and its culture on the chorioallantoic membrane of the embryonated chicken egg; and he made essential contributions to the treatment of trachoma with sulfamides, low temperature, and vaccine. With very good reason, in 1969 the Council of the International League and Organization Against Trachoma awarded him the Gold Medal for outstanding contributions to the study and control of trachoma.

Moreover, emphasis must be placed on his experimental research into the appearance of rabbits' naphthalinic cataract which is very similar to the human senile cataract. He demonstrated that the disturbance of glucid synthesis and phosphorylation are involved in the process of appearance. He made a major contribution to the treatment of eye diseases with extracts of the lacrimal gland, extracts of the ciliary body, and especially with total eye extract, very effective especially in the management of progressive myopia and its complications. His clinical research practically covered the whole pathology of the eye -- strabism, senile cataract, glaucoma, strong myopia, cancer of the eye, and other diseases. All this explains the unanimous appreciation and numerous tokens of amity from outstanding foreign ophthalmologists on his

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70th birthday. At this celebration, these appreciations added to the documents which attest to the work and personality of Prof Vancea.

Prof Vancea's merits have been fully recognized in Romania as well. He held university and academic positions and was awarded degrees and distinctions. He was active in the universities of Cluj, Iasi, and Bucharest for more than four decades, he is a corresponding member of the Academy of the Socialist Republic of Romania and of the Academy of Medical Sciences, and so on. As part of his many-sided international involvement, he is a full member of the Leopoldina German Academy of Scientific Workers in Halle, permanent member of the Council of the European Society of Ophthalmology, deputy chairman of the Internatonlal Society of Ergophthalmology, and a member of many scientific societies and ophthalmological institutions in West Germany, East Germany, France, and other countries.

Another speaker, Prof Vasile Netea, praised Prof Vancea's outstanding activity in the cultural area. He emphasized that it has been a distinguished tradition of Romanian scientists, either representatives of humanistic, biological, mathematical, economic, or medical sciences, to combine their purely scientific work designed to solve specialized problems with dedication to civic activities aimed at disseminating

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science, culture, and the arts among the masses and to the patriotic education of the people. The speaker briefly reviewed the civic, social, and educational activities of outstanding personalities of Romania's history and placed Prof Vancea's contributions in this context. He stated that Prof Vancea is one of the Romanian scholars who devoted much of their ardor, energies, and ability to the development and promotion of the Romanian people's universities. Concurrently with conducting his specialized research as one of the most outstanding Romanian and world ophthalmologists he also carried out intensive work to popularize science and many ideas in the area of general knowledge and modern technology. Under the socialist system, Prof Vancea's efforts along this line have intensified and have assumed the character of a genuine apostolate. The speaker emphasized that Prof Vancea distinguished himself as both a theoretician in line with the directives of the Romanian Communist Party and as an enthusiastic inspirer and achiever. His theoretical views were formulated in many speeches, articles, and ingerviews which are fervent pleas for the dissemination of cultural knowledge among the masses and also for the procedures involved.

Dr Marius Nicsa addressed the audience on behalf of Prof Vancea's former students. In moving words he described the personality of their teacher. The speaker said that

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Prof Vancea had a powerful and well-defined individuality and was characterized by boundless enthusiasm. He developed under the Cluj school and assimilated all the accomplishments of the old Iasi School and of its representatives in those days. Prof Vancea created a new school of ophthalmology which has been developing for 32 years. The speaker emphasized that he could not forget Prof Vancea's confidence in his pupil's professional abilities which the pupil himself did not perceive and the tremendous responsibilities the teacher assigned him from the first days. Moreover, he could not forget the days and nights spent in the clinic laboratory together with his teacher, his delight in reporting the first concrete results, his disappointment over his failures, and the teacher's dissatisfaction over the inadequacy of results in a particular stage. The speaker concluded that they had planned a special achievement for this celebration in order to reflect the value of Prof Vancea and of his work. Because at home the entire work of Prof Vancea and of the Iasi school of ophthalmology is known in all the medical world, he thought that they should add to their warm gratitude not their appreciation of which Prof Vancea was convinced but the homage of outstanding foreign ophthalmologists who, just as his students, had the opportunity to meet him, value and love him as a teacher, scientist, and individual. The speaker presented an album with words of appreciation from more than 70 foreign ophthalmologists. He then requested President of the Academy Prof Miron Nicolescu

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to present to the feted scholar this album which reflected the high prestige of Prof Vancea in the international scientific world.

In his reply, Prof Vancea made a short autobiographical survey. He said that in his 50 years of work he omitted very many things and that, like Baudelaire, he could state that in his moments of sadness he could compare his life with a mountain of unrealized good intentions. However, the few results which he obtained in scientific research, he said, showed him that researchers should not despair and that their drive should be built on the hope that nature can be conquered in stages. He added that his confession expressed his scientific approach. In the new revolutionary climate in Romania his boldness as a researcher increased because the new system was founded on the theoretical conviction, demonstrated by practice, that man is capable of mastering nature because he is a crowning of nature and is regarded as nature which has become self-awareness. Prof Vancea then thanked the Academy of the Romanian Socialist Republic and the speakers for their appreciations of his work and for his individuality.

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YUGOSLAVIA

MIHAILOVIC, S.

"V. Butozan"

Belgrade, Veterinarski Glasnik, No 1, 1973, p 73

Translation: President of the Republic Josip Borz Tito decorated Academician and Professor Doctor V. Butozan with the medal of the Yugoslav Flag on the occasion of his 70th birthday.

This high award was given to Vaso Butozan for his special service in the fight for freedom and independence of our land, for building socialism, and for the development of peaceful cooperation and friendly relations among our country and other countries.

We congratulate Doctor Butozan on this high decoration.

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YUGOSLAVIA

MIHAJLOVIC, S.

"V. Butozan"

Belgrade, Veterinarski Glasnik, No 1, 1973, pp 3-9

Abstract: Vasa Butozan was born in 1902 near Pancevo and fundamentally changed the status of veterinary medicine in Yugoslavia. He is a historic person in the field and a political worker of national prominence. He wrote about 90 articles on disease of cattle, sheep, dogs, and pigs; general epistology; and veterinary service in Yugoslavia. He founded the Veterinary Faculty in Sarajevo and was its dean, later becoming rector of Sarajevo University. At the University he gave lectures on contagious diseases of domestic animals and was partioularly involved in developing veterinary training and planning research. From 1960 to 1967 he was director of the Research Institute of the Veterinary Faculty of Sarajevo University.

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YUGOSLAVIA

"Z. Calio"

Belgrade, Veterinarski Glasnik, No 1, 1973, pp 70-71

Abstract: Zdenka Calio's speoialty was veterinary bacteriology and she held a job in the Institute for the Improvement of Veterinary Medioine in Serbia. She was born in 1915 in Istria and was one of the first women veterinarians who graduated from the University of Zagreb. In 1944 she organized a diagnostic lab and she studied anaerobic diseases of sheep in England and Switzerland. Zdenka Calio published 20 articles in various domestio publications, was much honored, and beoame a veterinarian beoause of her love of animals.

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YUGOSLAVIA

"N. Grasselli"

Zagreb, Farmaceutski Glasnik, No 3, 1973, p 130

Abstract: Nikolaja Grasselli was born in July 1904 and died in the fall of 1972; she studied and worked in Slovenia and particularly in Zagreb. From 1947 until her retirement in 1962 she was chief druggist at the Clinical Hospital in Ljubljana. She is known for her work and views on the need of the oooperation of all professionals in a hospital, and she founded a section in the pharmaceutical sooiety known as the "hospital-based-pharmacists." She was also the first president of such a section in Slovenia. She also pioneered the notion of "pharmaceutical-consultant" as a person who, together with a M.D., would be in charge of determining treatment and therapy for the patient.

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YUGOSLAVIA

"H. Manasse"

Zagreb, Farmaceutski Glasnik, No 2, 1973, pp 78-79

Abstract: Henrik Manasse (born 1902 in Germany, died 1972) studied chemistry, pharmacy, mathematics, and physics. He came to Zagreb in 1931 and stayed there with the exception of 1945-48 when he was the pharmacist of the Third Division of the YPA. From 1948 until his retirement as a major, due to illness in 1956, he was the chief of the YPA chemical laboratory in Zagreb. Until his death he continued his association with the Institute of Food Chemistry of the Pharmaceutical-Biochemical Faculty at Zagreb University and was known for his studies, translations, lectures, editorial work, and participation in international food and pharmacy congresses. He was the founder and first president of the Society of Diabetics of Zagreb. His use of bromides was also an important contribution.

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